



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 139768

TO: James Schultz
Location: REM/2D18/2C18
Art Unit: 1635
Wednesday, December 08, 2004

Case Serial Number: 09/920394

From: David Schreiber
Location: Biotech-Chem Library
Remsen E01A61
Phone: 272-2526

david.schreiber@uspto.gov

Search Notes

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: _____ Examiner #: _____ Date: _____
 Art Unit: _____ Phone Number 30 _____ Serial Number: _____
 Mail Box and Bldg/Room Location _____ Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of invention: _____

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

** For Sequence Searches Only ** Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

STAFF USE ONLY

STAFF USE ONLY		Type of Search	Vendors and cost where applicable
Searcher: <u>D. Schreiber</u>	NA Sequence (#) <u>11</u>	STN _____	
Searcher Phone #: <u>272-2526</u>	AA Sequence (#) _____	Dialog _____	
Searcher Location: <u>Remsen E01161</u>	Structure (#) _____	Questel/Orbit _____	
Date Searcher Picked Up _____	Bibliographic _____	Dr. Link _____	
Date Completed <u>12/8</u>	Litigation _____	Lexis/Nexis _____	
Searcher Prep. Review Time <u>15</u>	Fulltext _____	Sequence Systems <u>CompuGen</u>	
Technical Prep. Time _____	Patent Family _____	WWW/Internet _____	
Phone Time <u>61</u>	Other _____	Other (specify) _____	

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139768

Schreiber, David

From: Schultz, James
Sent: Wednesday, November 17, 2004 9:01 AM
To: Schreiber, David
Subject: Score over length search 09/920,394

Hi David,

I need a score over length nucleotide sequence search on nucleobases 14 through 1741 of SEQ ID NO:3 in the above entitled case. I need the lower and upper limits to be 8 and 50, respectively, I only need hits that are 100% complementary, and please transfer as many hits into the excel program as possible. No need to search the interference databases at this time.

Thanks,
 Doug Schultz

James Douglas Schultz, PhD

AU 1635 (Biotechnology)

Patent Examiner

United States Patent and Trademark Office

(Office) REM 2D18

(Mail) REM 2C18

(571) 272-0763

1 46'43
 24 49'10
 36 46'54
~~44 43'51~~ 46'32
 5p 46'03
~~54 45'41~~
 6p 49'55
 56
 5p 31'55

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SCORE OVER LENGTH SEARCHES

Attached is a score over length search. This search was developed to overcome limitations in most standard search systems which favor large sequences with high scoring, but lesser overall identity over smaller sequences with higher overall identity. This search is especially useful for relatively small nucleic acid or polypeptide target sequences (antisense, fragments, probes, primers, RNAi, epitopes, haptens, etc.) claimed functionally via a form of hybridization and/or identity language and having defined upper and lower polynucleotide and or polypeptide length limits.

The score over length search is performed by first running the query sequence using examiner-specified identity and polynucleotide or protein length limit parameters, and saving 65,000 hits and 0 alignments from each desired database. The resulting output is reformatted using a Microsoft Word macro and is imported into Excel. The summary table data are then sorted by the ratio of score of each hit sequence divided by its length and the accession numbers for all hits below the examiner's desired score over length parameters are deleted. The remaining accession numbers are used to pull the corresponding sequences from the databases into subdatabases enriched for good hits and the query sequence is re-run against these subdatabases to yield the final results.

The score over length cutoff for this search is 100%.

Examiner Please Note: This cover sheet should be included when submitting results to be scanned.

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STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact *the searcher or contact*:

Mary Hale, Information Branch Supervisor
Remsen Bldg. 01 D86
571-272-2507

Voluntary Results Feedback Form

➤ I am an examiner in Workgroup: Example: 1610

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC-Biotech-Chem Library Remsen Bldg.



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GenCore version 5.1.6
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: December 8, 2004, 07:21:18 ; Search time 0.001 Seconds

(without alignments)
739.584 Million cell updates/sec

Title: US-09-920-394-3

Sequence: 1 tgcgcgcctcagatggtg.....catagagctgtaagaga 1728

Scoring table: IDENTITY_NTC
Gapop 10.0, Gapext 0.5

Searched: 9 seqs, 214 residues

Total number of hits satisfying chosen parameters: 18

Minimum DB seq length: 8
Maximum DB seq length: 50

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 9 summaries

Database: rge3.seq*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length DB	ID	Description
1	40	2.3	40	1	AX092543
2	30	1.7	30	1	AX092543
3	26	1.5	26	1	BD144801
4	25	1.4	25	1	AX092546
5	22	1.3	22	1	BD144866
6	21	1.2	21	1	BD144867
7	19	1.1	19	1	BD182057
8	18	1.0	18	1	BD182056
9	13	0.8	13	1	CQ794312

ALIGNMENTS

RESULT 1
LOCUS AX092543 40 bp DNA linear PAT 21-MAR-2001
DEFINITION Sequence 4 from Patent WO0116358.
ACCESSION AX092543
VERSION AX092543.1 GI:13444635

KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
artificial sequences.

REFERENCES

1 Borg-Capra, C.S., Lehner, R.J. and Vance, D.E.
Method of screening for triacylglycerol hydrolase inhibitors
Patent: WO 0116358-A 4 08-MAR-2001;
GLAXO GROUP LIMITED (GB); THE GOVERNORS OF THE UNIVERSITY OF
ALBERTA (CA)

FEATURES
source

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/db_xref="taxon:32630"
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Best Local Similarity 100.0%; Pred. No. 0.31;
Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 548 GCATCTGGGATTTCTTACACAGCGGGATGAACACACCGG 587
DB 1 GCATCTGGGATTTCTTACACAGCGGGATGAACACACCGG 40

RESULT 2
LOCUS BD144801 30 bp DNA linear PAT 17-JAN-2003
DEFINITION A method of detecting human phase I enzymes of drug-metabolizing
and a probe and a kit therefor.

ACCESSION BD144801
VERSION BD144801.1 GI:27850559
KEYWORDS JP 2002142780-A/13.

SOURCE
ORGANISM Homo sapiens (human)
Homo sapiens

REFERENCE
AUTHORS Nishimura, M., Yaguchi, H., Naito, S. and Hirakawa, I.
TITLE A method of detecting human phase I enzymes of drug-metabolizing
and a probe and a kit therefor
Patent: JP 2002142780-A 13 21-MAY-2002;
OTSUKA PHARMACEUTICAL FACTORY INC

COMMENT
OS Homo sapiens (human)
PN JP 2002142780-A/13
PD 21-MAY-2002
PF 28-AUG-2001 JP 2001257338
PI MASUHIRO NISHIMURA, HIROSHI YAGUCHI, SHINSAKU NAITO, ISAO HIRAKAWA
PC C12N15/09, C12Q1/68, C12N15/00
CC human CEST gene

FT Key Location/Qualifiers
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FEATURES
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/db_xref="taxon:9606"

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Best Local Similarity 100.0%; Pred. No. 1.2;
Matches 30; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1006 ATGCTGCTGCTGTAACACCTGAAGAGCTT 1035
DB 1 ATGCTGCTGCTGTAACACCTGAAGAGCTT 30

RESULT 3
LOCUS BD182058 26 bp DNA linear PAT 15-MAY-2003
DEFINITION ABC expression promoting agent.
ACCESSION BD182058
VERSION BD182058.1 GI:30792976
KEYWORDS WO 02087580-A/24.

SOURCE synthetic construct
ORGANISM synthetic construct
artificial sequences.

REFERENCE
1 Sugiyama, Y., Fuse, H., Hirakawa, M. and Tozawa, R.
ABC expression promoting agent
Patent: WO 02087580-A 24 07-NOV-2002;
TAKEDA CHEMICAL INDUSTRIES LTD, YASUO SUGIYAMA, HIROMITSU FUSE, MASAO
HIRAKAWA, RYUICHI TOZAWA

COMMENT
OS Artificial Sequence

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PN WO 02087580-A/24
PD 07-NOV-2002
PF 24-APR-2002 WO 2002JP004072
PI 25-APR-2001 JP 01P 128222
PR YASUO SUGIYAMA, HIROMITSU FUSE, MASAO HIRAKATA, RYUICHI TOZAWA PC
A61K31/4439, A61K31/42, A61P45/00, A61P9/06, A61P9/10// PC
C07D417/12,
PC C07D413/12, C07D263/32
CC ABC expression promoting agent
FH Key Location/Qualifiers
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Best Local Similarity 100.0%; Pred. No. 2.1;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 834 TGCTATCATCTGCTGGGTGCAAAACCA 859
DB 1 TGCTATCATCTGCTGGGTGCAAAACCA 26

RESULT 4
LOCUS AX092546/c 25 bp DNA linear PAT 21-MAR-2001
DEFINITION Sequence 7 from Patent WO0116358.
ACCESSION AX092546
VERSION AX092546.1 GI:13444638
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
ARTIFICIAL SEQUENCES.
1
REFERENCE 1
AUTHORS Borg-Capra, C.S., Lehner, R.J. and Vance, D.E.
TITLE Method of screening for triacylglycerol hydrolase inhibitors
JOURNAL Patent: WO 0116358-A 7 08-MAR-2001;
GLAXO GROUP LIMITED (GB); THE GOVERNORS OF THE UNIVERSITY OF
ALBERTA (CA)
FEATURES
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/note="Oligo"

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Best Local Similarity 100.0%; Pred. No. 2.4;
Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1710 CCAGACAGAACACATAGAGCTGTGA 1734
DB 25 CCAGACAGAACACATAGAGCTGTGA 1

RESULT 5
LOCUS BD144866 22 bp DNA linear PAT 17-JAN-2003
DEFINITION A method of detecting human phase 1 enzymes of drug-metabolizing
and a probe and a kit therefor.
ACCESSION BD144866 GI:27850624
VERSION BD144866.1 GI:27850624
KEYWORDS Homo sapiens (human)
SOURCE Homo sapiens
ORGANISM Homo sapiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
REFERENCE 1 (bases 1 to 22)
AUTHORS Nishimura, M., Yaguchi, H., Naito, S. and Hiraoka, I.
```

```
TITLE A method of detecting human phase 1 enzymes of drug-metabolizing
and a probe and a kit therefor
JOURNAL Patent: JP 2002142780-A 78 21-MAY-2002;
COMMENT OTSUKA PHARMACEUTICAL FACTORY INC
OS Homo sapiens (human)
PN JP 2002142780-A/78
PD 21-MAY-2002
PF 28-AUG-2001 JP 2001257338
PI MASUHIRO NISHIMURA, HIROSHI YAGUCHI, SHINSAKU NAITO, ISAO HIRAKA
PC C12N15/09, C12Q1/68, C12N15/00
CC human CEST gene
FH Key Location/Qualifiers
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Best Local Similarity 100.0%; Pred. No. 3.5;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 965 CCAGAGAGTCAACCCCTTCT 986
DB 1 CCAGAGAGTCAACCCCTTCT 22

RESULT 6
LOCUS BD144867/c 21 bp DNA linear PAT 17-JAN-2003
DEFINITION A method of detecting human phase 1 enzymes of drug-metabolizing
and a probe and a kit therefor.
ACCESSION BD144867
VERSION BD144867.1 GI:27850625
KEYWORDS JP 2002142780-A/79.
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
REFERENCE 1 (bases 1 to 21)
AUTHORS Nishimura, M., Yaguchi, H., Naito, S. and Hiraoka, I.
TITLE A method of detecting human phase 1 enzymes of drug-metabolizing
and a probe and a kit therefor
JOURNAL Patent: JP 2002142780-A 79 21-MAY-2002;
OTSUKA PHARMACEUTICAL FACTORY INC
OS Homo sapiens (human)
PN JP 2002142780-A/79
PD 21-MAY-2002
PF 28-AUG-2001 JP 2001257338
PI MASUHIRO NISHIMURA, HIROSHI YAGUCHI, SHINSAKU NAITO, ISAO HIRAKA
PC C12N15/09, C12Q1/68, C12N15/00
CC human CEST gene
FH Key Location/Qualifiers
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Best Local Similarity 100.0%; Pred. No. 4;
Matches 21; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1071 GGTGGAATTAAACACAGAGA 1091
DB 21 GGTGGAATTAAACACAGAGA 1

RESULT 7
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BD182057/c
LOCUS      BD182057      19 bp      DNA      linear      PAT 15-MAY-2003
DEFINITION ABC expression promoting agent.
ACCESSION  BD182057
VERSION    BD182057.1 GI:30792975
KEYWORDS   WO 02087580-A/23.
SOURCE     synthetic construct
ORGANISM   synthetic construct
            artificial sequences.
REFERENCE  1 (bases 1 to 19)
AUTHORS   Sugiyama,Y., Fuse,H., Hirakata,M. and Tozawa,R.
TITLE     ABC expression promoting agent
JOURNAL   Patent: WO 02087580-A 23 07-NOV-2002;
          TAKEDA CHEMICAL INDUSTRIES LTD, YASUO SUGIYAMA, HIROMITSU FUSE, MASAO
          HIRAKATA, RYUICHI TOZAWA
COMMENT    OS Artificial Sequence
           PN WO 02087580-A/23
           PD 07-NOV-2002
           PR 24-APR-2002 WO 2002JP004072
           PR 25-APR-2001 JP 01P 128222
           PI YASUO SUGIYAMA, HIROMITSU FUSE, MASAO HIRAKATA, RYUICHI TOZAWA PC
           A61K31/4439, A61K31/42, A61K45/00, A61P3/06, A61P9/00, A61P9/10// PC
           C07D417/12,
           PC C07D413/12, C07D263/32
           CC ABC expression promoting agent
           FH Key Location/Qualifiers
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            location/Qualifiers
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FEATURES
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Best Local Similarity 100.0%; Pred. No. 5;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 874 ATGGTTCACCTGCTGCAC 892
DB 19 ATGCTTCACCTGCTGCAC 1

RESULT 8
BD182056      18 bp      DNA      linear      PAT 15-MAY-2003
LOCUS      BD182056
DEFINITION ABC expression promoting agent.
ACCESSION  BD182056
VERSION    BD182056.1 GI:30792974
KEYWORDS   WO 02087580-A/22.
SOURCE     synthetic construct
ORGANISM   synthetic construct
            artificial sequences.
REFERENCE  1 (bases 1 to 18)
AUTHORS   Sugiyama,Y., Fuse,H., Hirakata,M. and Tozawa,R.
TITLE     ABC expression promoting agent
JOURNAL   Patent: WO 02087580-A 22 07-NOV-2002;
          TAKEDA CHEMICAL INDUSTRIES LTD, YASUO SUGIYAMA, HIROMITSU FUSE, MASAO
          HIRAKATA, RYUICHI TOZAWA
COMMENT    OS Artificial Sequence
           PN WO 02087580-A/22
           PD 07-NOV-2002
           PR 24-APR-2002 WO 2002JP004072
           PR 25-APR-2001 JP 01P 128222
           PI YASUO SUGIYAMA, HIROMITSU FUSE, MASAO HIRAKATA, RYUICHI TOZAWA PC
           A61K31/4439, A61K31/42, A61K45/00, A61P3/06, A61P9/00, A61P9/10// PC
           C07D417/12,
           PC C07D413/12, C07D263/32
           CC ABC expression promoting agent
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source

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Best Local Similarity 100.0%; Pred. No. 5;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 815 AGCCCTTGCTGAGCAAA 832
DB 1 AGCCCTTGCTGAGCAAA 18

RESULT 9
CQ794312      13 bp      DNA      linear      PAT 19-APR-2004
LOCUS      CQ794312
DEFINITION Sequence 53 from Patent WO2004024953.
ACCESSION  CQ794312
VERSION    CQ794312.1 GI:46406947
KEYWORDS   Homo sapiens (human)
SOURCE     Homo sapiens (human)
ORGANISM   Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.

REFERENCE  1
AUTHORS   Yamamoto,M., Yamamoto,N., Hirose,K. and Sakai,J.
TITLE     Method for preparation of cdna tags for identifying expressed genes
JOURNAL   and method for analysis of gene expression
          Patent: WO 2004024953-A 53 25-MAR-2004;
          Kureha Chemical Industry Co., Ltd. (JP); Yamamoto, Mikio (JP);
          Yamamoto, Naoki (JP)
FEATURES   Location/Qualifiers
source    1. .13
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QY 979 CCCCTTCTGGGCA 991
DB 1 CCCCTTCTGGGCA 13

Query Match 0.8%; Score 13; DB 1; Length 13;
Best Local Similarity 100.0%; Pred. No. 9;
Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Search completed: December 8, 2004, 07:21:19
Job time : 1 secs

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GenCore version 5.1.6
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: December 8, 2004, 07:22:57 ; Search time 0.001 Seconds
(without alignments)
2526.336 Million cell updates/sec

Title: US-09-920-394-3

Perfect score: 1728
Sequence: 1 tctgcgcctcaccgatctg.....catagagctcgtgaatgaaga 1728

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 0.5

Searched: 33 seqs, 731 residues

Total number of hits satisfying chosen parameters: 66

Minimum DB seq length: 8
Maximum DB seq length: 50

Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 33 summaries

Database : rng3.seq*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	50	2.9	50	1	ABZ74886
2	40	2.3	40	1	AA75811
3	30	1.7	30	1	ABT04547
4	26	1.5	26	1	ABZ65755
5	25	1.4	25	1	AA75814
6	22	1.3	22	1	ABT04612
7	21	1.2	21	1	ABT04613
8	20	1.2	20	1	ABZ74913
9	20	1.2	20	1	ABZ74902
10	20	1.2	20	1	ABZ74916
11	20	1.2	20	1	ABZ74907
12	20	1.2	20	1	ABZ74911
13	20	1.2	20	1	ABZ74912
14	20	1.2	20	1	ABZ74897
15	20	1.2	20	1	ABZ74901
16	20	1.2	20	1	ABZ74899
17	20	1.2	20	1	ABZ74900
18	20	1.2	20	1	ABZ74909
19	20	1.2	20	1	ABZ74898
20	20	1.2	20	1	ABZ74904
21	20	1.2	20	1	ABZ74908
22	20	1.2	20	1	ABZ74910
23	20	1.2	20	1	ABZ74884
24	20	1.2	20	1	ABZ74885
25	20	1.2	20	1	ABZ74906
26	20	1.2	20	1	ABZ74914
27	20	1.2	20	1	ABZ74915
28	20	1.2	20	1	ABZ74905
29	20	1.2	20	1	ABZ74929
30	20	1.2	20	1	ABZ74903
31	20	1.2	20	1	ABZ74917
32	19	1.1	19	1	ABZ69754
33	18	1.0	18	1	ABZ69753

ALIGNMENTS

RESULT 1
ID ABZ74886
XX
AC ABZ74886;
XX
DT 10-MAY-2003 (first entry)
XX
DE Human acyl coenzyme A cholesterol acyltransferase-1 probe #6.
XX
KW Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KW Chromosome 1q25; chromosome 1; cholesterol metabolism;
KW free sterol regulation; cholesterol metabolism disorder;
KW lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KW cardiac; expression inhibition; angiogenesis therapy;
KW quantitative real-time PCR; probe; ss.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
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FT /mod_base= OTHER
FT /note= "Conjugated to fluorescent reporter dye FAM"
FT modified_base 50
FT /*tag= b
FT /mod_base= OTHER
FT /note= "Conjugated to fluorescent quencher dye TAMRA"
XX
PN WC2003012144-A1.
XX
PD 13-FEB-2003.
XX
PF 17-JUL-2002; 2002WC-US022696.
XX
PR 01-AUG-2001; 2001US-00920394.
XX
PA (ISIS-) ISIS PHARM INC.
XX
PI Crooke RM, Graham MJ, Lemonidis KM;
XX WPI; 2003-239532/23.
XX
DR New antisense oligonucleotides targeted to a nucleic acid encoding acyl
XX coenzyme A cholesterol acyltransferase-1, useful for treating a
XX disease/condition involving abnormal lipid or cholesterol metabolism,
XX e.g. atherosclerosis.
XX
PS Example 13; Page 87; 117pp; English.
XX
CC This sequence represents a human acyl coenzyme A cholesterol
CC acyltransferase-1 probe used in quantitative real-time PCR with primers
CC ABZ74884-ABZ74885 in an exemplification of the present invention. The
CC invention relates to antisense oligonucleotides targeted to the human or
CC mouse acyl coenzyme A cholesterol acyltransferase-1 gene, which inhibit
CC its expression. A series of oligonucleotides (ABZ74897-ABZ74942) were
CC designed to target different regions of the human or murine acyl coenzyme
CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
CC on mRNA levels by quantitative real-time PCR. GAPDH (glyceraldehyde-3-
CC phosphate) mRNA levels were measured as a control. Acyl coenzyme A
CC cholesterol acyltransferase (ACAT) enzymes catalyse the synthesis of
CC cholesterol esters from free cholesterol and fatty acyl-CoA, and are also
CC involved in regulating the concentration of cellular free sterols. The
CC human acyl coenzyme A cholesterol acyltransferase-1 is the predominant
CC ACAT isoform in the liver, and the gene encoding it is located on
CC chromosome 1q25, although a subsequent study has indicated that one acyl
CC coenzyme A cholesterol acyltransferase-1 mRNA is produced from genes on
CC two different chromosomes (chromosomes 1 and 7) by a novel RNA

CC recombination mechanism involving trans-splicing of the two discontinuous
 CC precursor mRNAs. The oligonucleotides of the invention are useful for the
 CC prevention and treatment of conditions associated with acyl coenzyme A
 CC cholesterol acyltransferase-1, such as disorders involving abnormal lipid
 CC or cholesterol metabolism, e.g., atherosclerosis or cardiovascular
 CC disease. They are also useful in research and diagnostics for modulating
 CC the expression of acyl coenzyme A cholesterol acyltransferase-1
 CC XX

SQ Sequence 50 BP; 14 A; 13 C; 16 G; 7 T; 0 U; 0 Other;

Query Match 2.9%; Score 50; DB 1; Length 50;
 Best Local Similarity 100.0%; Pred. No. 0.91;
 Matches 50; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1601 AAGGATCTGCGATGTCGACACGCGCGCCGAGAGCTGAG 1650
 Db 1 AAGGATCTGCGATGTCGACACGCGCGCCGAGAGCTGAG 50

RESULT 2
 AAF75811
 ID AAF75811 standard; DNA; 40 BP.

AC AAF75811;
 DT 16-MAY-2001 (first entry)

DE Triacylglycerol hydrolase, TGH, oligonucleotide P-TGHI.

KM TGH; triacylglycerol hydrolase; carboxylesterase; EST-1; VLDL; rat;
 KM very low density lipoprotein; atherosclerosis; hypercholesterolaemia;
 KM hyperbetalipoproteinaemia; non-insulin dependent diabetes mellitus;
 KM coronary arterial disease; peripheral vascular disease; pancreatitis;
 KM obesity; mixed dyslipidaemia; cerebro-vascular disease; mouse; pig; ss.

OS Mus sp.
 OS Rattus sp.
 OS Sus scrofa.

PN W0200116358-A2.

PD 08-MAR-2001.

PF 24-AUG-2000; 2000MO-EP008262.

PR 28-AUG-1999; 99GB-00020334.

PA (GLAX) GLAXO GROUP LTD.
 PA (UYAL-) UNIV ALBERTA.

PI Borg-Capra CS, Lehner RJ, Vance DE;

WPI; 2001-235119/24.

PT Identifying compounds for treating elevated circulating levels of
 PT triacylglyceride, very low density lipoprotein/low density lipoprotein-
 PT cholesterol and ApoB-100, comprises identifying triacylglycerol hydrolase
 PT inhibitors.

PS Disclosure; Page 10; 28pp; English.

XX The present invention relates to a method for identifying compounds
 CC useful in the treatment of conditions resulting from elevated circulating
 CC levels of: triacylglycerides, apoB-100, and/or very low density lipoproteins
 CC (VLDL)/ low density lipoproteins (LDL)-cholesterol. The method comprises
 CC determining whether the compound inhibits triacylglycerol hydrolase (TGH)
 CC activity. TGH has previously been known as carboxylesterase EST-1. It is
 CC thought that TGH may participate in the mobilisation of triacylglycerides
 CC for assembly into VLDL. Inhibitors of TGH are useful for treating
 CC atherosclerosis, hypercholesterolaemia, hyperbetalipoproteinaemia, non-
 CC insulin dependent diabetes mellitus (NIDDM), coronary arterial disease,
 CC peripheral vascular disease, pancreatitis, obesity, mixed dyslipidaemia
 CC and cerebro-vascular disease. The present sequence is an oligonucleotide

CC which was used to clone human TGH (see AAB73263). The present sequence
 CC was designed using conserved sites between mouse, rat and pig TGH coding
 CC sequences

SQ Sequence 40 BP; 10 A; 10 C; 13 G; 7 T; 0 U; 0 Other;

Query Match 2.3%; Score 40; DB 1; Length 40;
 Best Local Similarity 100.0%; Pred. No. 2.7;
 Matches 40; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 548 GCATCTGGGATCTTCAGACAGCGGATGAACACAGCCG 587
 Db 1 GCATCTGGGATCTTCAGACAGCGGATGAACACAGCCG 40

RESULT 3
 ABT04547
 ID ABT04547 standard; DNA; 30 BP.

AC ABT04547;

DT 25-SEP-2002 (first entry)

DE Human CBS1 gene probe SEQ ID NO: 13.

KM Human; drug metabolism; enzyme; probe; ss.

OS Homo sapiens.

FN JP2002142780-A.

PD 21-MAY-2002.

PF 28-AUG-2001; 2001JP-00257338.

PR 04-SEP-2000; 2000JP-00267163.

PA (SAKA) OTSUKA SEIYAKU KOGYO KK.

WPI; 2002-552472/59.

PT Measurement of an enzyme participating to the first phase reaction of
 PT drug metabolism, a probe and a kit for it.

PS Claim 4; Page 18; 36pp; Japanese.

CC The present invention relates to probes which can be used for the
 CC measurement of an enzyme. The probes can be used for the measurement of
 CC an enzyme participating to the first phase reaction of drug metabolism.
 CC The present sequence is a probe shown in the invention

SQ Sequence 30 BP; 9 A; 7 C; 7 G; 7 T; 0 U; 0 Other;

Query Match 1.7%; Score 30; DB 1; Length 30;
 Best Local Similarity 100.0%; Pred. No. 7.3;
 Matches 30; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1006 ATGCTGCTGTAACACCTGAAGAGCTT 1035
 Db 1 ATGCTGCTGTAACACCTGAAGAGCTT 30

RESULT 4
 ABZ69755
 ID ABZ69755 standard; DNA; 26 BP.

AC ABZ69755;

DT 04-APR-2003 (first entry)

DE Human CEN Tagman probe.

KM Human; ABC-A1; expression promoter; pioglitazone; LXRA1pha; ABC-G1;

KW ACAT-1; CEN; cardiac; antianginal; antiarteriosclerotic; anorectic;
 KW cerebroprotective; hepatotropic; antidiabetic; dermatological;
 KW cytotactic; nephrotropic; vasotropic; antiinflammatory; antilipemic;
 KW anticoagulant; haemolytic; protozoacide; cholesterol; probe; ss.
 XX
 OS Homo sapiens.
 XX
 PN MO200287580-A1.
 XX
 PD 07-NOV-2002.
 XX
 PF 24-APR-2002; 2002MO-JP004072.
 XX
 PR 25-APR-2001; 2001JP-00128222.
 XX
 PA (TAKE) TAKEDA CHEM IND LTD.
 XX
 PI Sugiyama Y, Fuse H, Hirakata M, Tozawa R;
 XX
 DR WPI; 2003-148283/14.
 XX
 PT ABC-A1 mRNA expression promoter comprises pioglitazone e.g. for
 PT controlling cholesterol distribution.
 XX
 PS Example 4; Page 84; 117pp; Japanese.
 XX
 CC The invention relates to a novel ABC-A1 mRNA expression promoter
 CC comprising pioglitazone. Also included are ABC-A1 mRNA, LXRalpha mRNA,
 CC ABC-G1 mRNA, ACAT-1 mRNA and CEN mRNA expression promoters. The novel
 CC promoters of the invention have cardiac, antianginal,
 CC antiarteriosclerotic, cerebroprotective, hepatotropic, antidiabetic,
 CC dermatological, cytotactic, anorectic, nephrotropic, vasotropic,
 CC antiinflammatory, antilipemic, anticoagulant, haemolytic, and
 CC protozoacide activity. The promoters are useful for controlling
 CC cholesterol distribution in vivo and for treating and preventing e.g.
 CC diseases associated with low blood high density lipoprotein, Tangier
 CC disease, coronary vascular disorders (such as myocardial infarction and
 CC angina pectoris), arteriosclerosis, cerebral vascular disorders (such as
 CC cerebral infarction), fatty liver, liver sclerosis, diabetic
 CC complications, dermatological disorders, leukaemia, joint disease,
 CC peripheral vascular disorders, obesity, cerebrotendinous xanthomatosis,
 CC glomerular nephritis, reestenosis (e.g. after bypass surgery),
 CC pancreatitis, hyperlipidaemia, deep vein thrombosis and cerebral malaria.
 CC The present sequence represents a probe used in the invention to identify
 CC the human CEN CDNA
 CC
 XX
 SQ Sequence 26 BP; 7 A; 7 C; 6 G; 6 T; 0 U; 0 Other;
 XX
 QY
 DB 834 TGCTATCACTGCTGCTGCAAAACCA 859
 1 TGCTATCACTGCTGCTGCAAAACCA 26
 XX
 RESULT 5
 AAF75814/c
 ID AAF75814 standard; DNA; 25 BP.
 XX
 AC AAF75814;
 XX
 DT 16-MAY-2001 (first entry)
 XX
 DE Triacylglycerol hydrolase, TGH, oligonucleotide hCE3; Rev.
 XX
 XX TGH; triacylglycerol hydrolase; carboxylesterase; EST-1; VLDL;
 KW very low density lipoprotein; atherosclerosis; hypercholesterolaemia;
 KW hyperbetalipoproteinaemia; non-insulin dependent diabetes mellitus;
 KW coronary arterial disease; peripheral vascular disease; pancreatitis;
 KW obesity; mixed dyslipidaemia; cerebro-vascular disease; human; ss.
 XX

OS Homo sapiens.
 XX
 PN MO200116358-A2.
 XX
 PD 08-MAR-2001.
 XX
 PF 24-AUG-2000; 2000MO-EP008262.
 XX
 PR 28-AUG-1999; 99GB-00020334.
 XX
 PA (GLAXO) GLAXO GROUP LTD.
 XX
 PI (UYAL-) UNIV ALBERTA.
 XX
 DR Borg-Capra CS, Lehner RJ, Vance DE;
 XX
 PT WPI; 2001-235119/24.
 XX
 PT Identifying compounds for treating elevated circulating levels of
 PT triglyceride, very low density lipoprotein/low density lipoprotein-
 PT cholesterol and Apob-100, comprises identifying triacylglycerol hydrolase
 PT inhibitors.
 XX
 PS Disclosure; Page 11; 28pp; English.
 XX
 CC The present invention relates to a method for identifying compounds
 CC useful in the treatment of conditions resulting from elevated circulating
 CC levels of: triglycerides, apob-100, and/or very low density lipoproteins
 CC (VLDL)/ low density lipoproteins (LDL)-cholesterol. The method comprises
 CC determining whether the compound inhibits triacylglycerol hydrolase (TGH)
 CC activity. TGH has previously been known as carboxylesterase EST-1. It is
 CC thought that TGH may participate in the mobilisation of triacylglycerides
 CC for assembly into VLDL. Inhibitors of TGH are useful for treating
 CC atherosclerosis, hypercholesterolaemia, hyperbetalipoproteinaemia, non-
 CC insulin dependent diabetes mellitus (NIDDM), coronary arterial disease,
 CC peripheral vascular disease, pancreatitis, obesity, mixed dyslipidaemia
 CC and cerebro-vascular disease. The present sequence is an oligonucleotide
 CC which was used to clone human TGH (see AAB73363). The present sequence
 CC corresponds to the 3' end of human carboxylesterase I (hCEI)
 CC
 XX
 SQ Sequence 25 BP; 3 A; 6 C; 6 G; 10 T; 0 U; 0 Other;
 XX
 QY
 DB 1710 CCAGACGAAACACATAGAGCTGTGA 1734
 25 CCAGACGAAACACATAGAGCTGTGA 1
 XX
 RESULT 6
 ABT04612
 ID ABT04612 standard; DNA; 22 BP.
 XX
 AC ABT04612;
 XX
 DT 25-SEP-2002 (first entry)
 XX
 DE Human CEN1 gene probe SEQ ID NO: 78.
 XX
 KW Human; drug metabolism; enzyme; probe; ss.
 XX
 OS Homo sapiens.
 XX
 PN JP2002142780-A.
 XX
 PD 21-MAY-2002.
 XX
 PF 28-AUG-2001; 2001JP-00257338.
 XX
 PR 04-SEP-2000; 2000JP-00267163.
 XX
 PA (SAKA) OTSUKA SEIYAKU KOGYO KK.

```

XX DR WPI; 2002-552472/59.
XX
XX PT Measurement of an enzyme participating to the first phase reaction of
XX drug metabolism, a probe and a kit for it.
XX PS Claim 8; Page 26; 36pp; Japanese.
XX
XX CC The present invention relates to probes which can be used for the
XX measurement of an enzyme. The probes can be used for the measurement of
XX an enzyme participating to the first phase reaction of drug metabolism.
XX CC The present sequence is a probe shown in the invention
XX
XX SQ Sequence 22 BP; 6 A; 8 C; 4 G; 4 T; 0 U; 0 Other;
XX
XX Query Match 1.3%; Score 22; DB 1; Length 22;
XX Best Local Similarity 100.0%; Pred. No. 15;
XX Matches 22; Conservative 0; Mismatches 0; Gaps 0;
XX
QY 965 CCAGAGAGAGTCAACCCCTTCT 986
DB 1 CCAGAGAGAGTCAACCCCTTCT 22

RESULT 7
ABT04613/c
ID ABT04613 standard; DNA; 21 BP.
XX
XX AC ABT04613;
XX
XX DT 25-SEP-2002 (first entry)
XX
XX DE Human CES1 gene probe SEQ ID NO: 79.
XX
XX KM Human; drug metabolism; enzyme; probe; ss.
XX
XX OS Homo sapiens.
XX
XX PN JP2002142780-A.
XX
XX PD 21-MAY-2002.
XX
XX PF 28-AUG-2001; 2001JP-00257338.
XX
XX PR 04-SEP-2000; 2000JP-00267163.
XX
XX PA (SAKA ) OTSUKA SEIYAKU KOGYO KK.
XX
XX DR WPI; 2002-552472/59.
XX
XX PT Measurement of an enzyme participating to the first phase reaction of
XX drug metabolism, a probe and a kit for it.
XX
XX PS Claim 8; Page 26; 36pp; Japanese.
XX
XX CC The present invention relates to probes which can be used for the
XX measurement of an enzyme. The probes can be used for the measurement of
XX an enzyme participating to the first phase reaction of drug metabolism.
XX CC The present sequence is a probe shown in the invention
XX
XX SQ Sequence 21 BP; 3 A; 7 C; 3 G; 8 T; 0 U; 0 Other;
XX
XX Query Match 1.2%; Score 21; DB 1; Length 21;
XX Best Local Similarity 100.0%; Pred. No. 17;
XX Matches 21; Conservative 0; Mismatches 0; Gaps 0;
XX
QY 1071 GGTCGAATTACACGACGA 1091
DB 21 GGTCGAATTACACGACGA 1

RESULT 8
ABZ74913/c

```

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ID ABZ74913 standard; DNA; 20 BP.
XX
XX AC ABZ74913;
XX
XX DT 10-MAY-2003 (first entry)
XX
XX DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #33.
XX
XX KM Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
XX chromosome 1q25; chromosome 1; cholesterol metabolism;
XX free sterol regulation; cholesterol metabolism disorder;
XX lipid metabolism disorder; atherosclerosis; cardiovascular disease;
XX cardiant; expression inhibition; phosphorothioate;
XX antisense oligonucleotide; ss.
XX
XX OS Homo sapiens.
XX
XX FH Key Location/Qualifiers
XX modified_base 1..20
XX FT /*tag= a
XX FT /mod_base= OTHER
XX FT /note= "phosphorothioate linkages"
XX modified_base 1..5
XX FT /*tag= b
XX FT /mod_base= OTHER
XX FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
XX cytosines are 5-methylcytosine"
XX modified_base 16..20
XX FT /*tag= c
XX FT /mod_base= OTHER
XX FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
XX cytosines are 5-methylcytosine"
XX
XX PN WO2003012144-A1.
XX
XX PD 13-FEB-2003.
XX
XX PF 17-JUL-2002; 2002MO-US022696.
XX
XX PR 01-AUG-2001; 2001US-00920394.
XX
XX PA (ISIS-) ISIS PHARM INC.
XX
XX PI Crooke RM, Graham MJ, Lemonidis KM;
XX WPI; 2003-239532/23.
XX
XX PT New antisense oligonucleotides targeted to a nucleic acid encoding acyl
XX coenzyme A cholesterol acyltransferase-1, useful for treating a
XX disease/condition involving abnormal lipid or cholesterol metabolism,
XX e.g. atherosclerosis.
XX
XX PS Claim 3; Page 91; 117pp; English.
XX
XX CC Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted
XX to the human or murine acyl coenzyme A cholesterol acyltransferase-1
XX gene, which inhibit its expression. The antisense oligonucleotides were
XX designed to target different regions of the human or murine acyl coenzyme
XX A cholesterol acyltransferase-1 RNA, and were analysed for their effect
XX on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
XX quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
XX (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
XX cholesterol and fatty acyl-CoA, and are also involved in regulating the
XX concentration of cellular free sterols. The human acyl coenzyme A
XX cholesterol acyltransferase-1 is the predominant ACAT isoform in the
XX liver, and the gene encoding it is located on chromosome 1q25, although a
XX subsequent study has indicated that one acyl coenzyme A cholesterol
XX acyltransferase-1 mRNA is produced from genes on two different
XX chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
XX involving trans-splicing of the two discontinuous precursor mRNAs. The
XX oligonucleotides of the invention are useful for the prevention and
XX treatment of conditions associated with acyl coenzyme A cholesterol
XX acyltransferase-1, such as disorders involving abnormal lipid or

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CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
CC They are also useful in research and diagnostics for modulating the
CC expression of acyl coenzyme A cholesterol acyltransferase-1
XX
SQ Sequence 20 BP; 3 A; 8 C; 3 G; 6 T; 0 U; 0 Other;
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1421 TGATAGGAGACACGGCGAT 1440
Db 20 TGATAGGAGACACGGCGAT 1
RESULT 9
ABZ74902/C
ID ABZ74902 standard; DNA; 20 BP.
XX
AC ABZ74902;
XX
DT 10-MAY-2003 (first entry)
XX
DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #22.
XX
KM Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KM chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
KM free sterol regulation; cholesterol metabolism disorder;
KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KM cardiant; expression inhibition; phosphorothioate;
KM antisense oligonucleotide; ss.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT modified_base 1..20
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Phosphorothioate linkages"
FT modified_base 1..5
FT /*tag= b
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT modified_base 16..20
FT /*tag= c
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT cytosines are 5-methylcytosine"
XX
FN W02003012144-A1.
XX
PD 13-FEB-2003.
XX
PF 17-JUL-2002; 2002WO-US022696.
XX
PR 01-AUG-2001; 2001US-00920394.
XX
PA (ISIS-) ISIS PHARM INC.
XX
PI Crooke RM, Graham MJ, Lemonidis KM;
XX
DR WPI; 2003-239532/23.
XX
PT New antisense oligonucleotides targeted to a nucleic acid encoding acyl
PT coenzyme A cholesterol acyltransferase-1, useful for treating a
PT disease/condition involving abnormal lipid or cholesterol metabolism,
PT e.g. atherosclerosis.
XX
PS Claim 3; Page 91; 117pp; English.
XX
CC Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted
CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1

CC gene, which inhibit its expression. The antisense oligonucleotides were
CC designed to target different regions of the human or murine acyl coenzyme
CC A cholesterol acyltransferase-1 RNA, and were analyzed for their effect
CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
CC (ACAT) enzymes catalyze the synthesis of cholesterol esters from free
CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
CC concentration of cellular free sterols. The human acyl coenzyme A
CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the
CC liver, and the gene encoding it is located on chromosome 1q25, although a
CC subsequent study has indicated that one acyl coenzyme A cholesterol
CC acyltransferase-1 mRNA is produced from genes on two different
CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
CC involving trans-splicing of the two discontinuous precursor mRNAs. The
CC oligonucleotides of the invention are useful for the prevention and
CC treatment of conditions associated with acyl coenzyme A cholesterol
CC acyltransferase-1, such as disorders involving abnormal lipid or
CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
CC They are also useful in research and diagnostics for modulating the
CC expression of acyl coenzyme A cholesterol acyltransferase-1
XX
SQ Sequence 20 BP; 6 A; 5 C; 5 G; 4 T; 0 U; 0 Other;
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 551 TCTGGGGATTCTTCAGCACA 570
Db 20 TCTGGGGATTCTTCAGCACA 1
RESULT 10
ABZ74916/C
ID ABZ74916 standard; DNA; 20 BP.
XX
AC ABZ74916;
XX
DT 10-MAY-2003 (first entry)
XX
DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #36.
XX
KM Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KM chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
KM free sterol regulation; cholesterol metabolism disorder;
KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KM cardiant; expression inhibition; phosphorothioate;
KM antisense oligonucleotide; ss.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT modified_base 1..20
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Phosphorothioate linkages"
FT modified_base 1..5
FT /*tag= b
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT modified_base 16..20
FT /*tag= c
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT cytosines are 5-methylcytosine"
XX
FN W02003012144-A1.
XX
PD 13-FEB-2003.
XX
PF 17-JUL-2002; 2002WO-US022696.
XX

PR 01-AUG-2001; 2001US-00920394.
 XX (ISIS-) ISIS PHARM INC.
 PA Crooke RM, Graham MJ, Lemonidis KM;
 XX WPI; 2003-239532/23.
 DR
 XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl
 PT coenzyme A cholesterol acyltransferase-1, useful for treating a
 PT disease/condition involving abnormal lipid or cholesterol metabolism,
 PT e.g. atherosclerosis.
 XX
 XX Claim 3; Page 91; 117pp; English.
 PS
 XX Sequences AB274697-AB274942 represent antisense oligonucleotides targeted
 CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1
 CC gene, which inhibit its expression. The antisense oligonucleotides were
 CC designed to target different regions of the human or murine acyl coenzyme
 CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
 CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
 CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
 CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
 CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
 CC concentration of cellular free sterols. The human acyl coenzyme A
 CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the
 CC liver, and the gene encoding it is located on chromosome 1q25, although a
 CC subsequent study has indicated that one acyl coenzyme A cholesterol
 CC acyltransferase-1 mRNA is produced from genes on two different
 CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
 CC involving trans-splicing of the two discontinuous precursor mRNAs. The
 CC oligonucleotides of the invention are useful for the prevention and
 CC treatment of conditions associated with acyl coenzyme A cholesterol
 CC acyltransferase-1, such as disorders involving abnormal lipid or
 CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
 CC They are also useful in research and diagnostics for modulating the
 CC expression of acyl coenzyme A cholesterol acyltransferase-1
 CC
 CC Sequence 20 BP; 2 A; 4 C; 5 G; 9 T; 0 U; 0 Other;
 SQ
 Query Match 1.2%; Score 20; DB 1; Length 20;
 Best Local Similarity 100.0%; Pred. No. 18;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1711 CAGACAGAACACATGAGCT 1730
 Db 20 CAGACAGAACACATGAGCT 1
 RESULT 11
 AB274907/c
 ID AB274907 standard; DNA; 20 BP.
 XX
 AC AB274907;
 XX
 DT 10-MAY-2003 (first entry)
 XX
 DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #27.
 XX
 KM Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT, liver;
 KM chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
 KM free sterol regulation; cholesterol metabolism disorder;
 KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;
 KM cardiant; expression inhibition; phosphorochiolate;
 KM antisense oligonucleotide; ss.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT modified_base 1..20
 FT /*tag= a
 FT /mod_base= OTHER
 FT /note= "Phosphorochiolate linkages"

FT modified_base 1..5
 FT /*tag= b
 FT /mod_base= OTHER
 FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
 FT cytosines are 5-methylcytosine"
 FT 16..20
 FT modified_base
 FT /*tag= c
 FT /mod_base= OTHER
 FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
 FT cytosines are 5-methylcytosine"
 XX
 XX W02003012144-A1.
 XX
 PD 13-FEB-2003.
 XX
 PF 17-JUL-2002; 2002MO-US022696.
 XX
 XX 01-AUG-2001; 2001US-00920394.
 PR
 XX (ISIS-) ISIS PHARM INC.
 PA Crooke RM, Graham MJ, Lemonidis KM;
 XX WPI; 2003-239532/23.
 DR
 XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl
 PT coenzyme A cholesterol acyltransferase-1, useful for treating a
 PT disease/condition involving abnormal lipid or cholesterol metabolism,
 PT e.g. atherosclerosis.
 XX
 XX Example 15; Page 91; 117pp; English.
 PS
 XX Sequences AB274897-AB274942 represent antisense oligonucleotides targeted
 CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1
 CC gene, which inhibit its expression. The antisense oligonucleotides were
 CC designed to target different regions of the human or murine acyl coenzyme
 CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
 CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
 CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
 CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
 CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
 CC concentration of cellular free sterols. The human acyl coenzyme A
 CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the
 CC liver, and the gene encoding it is located on chromosome 1q25, although a
 CC subsequent study has indicated that one acyl coenzyme A cholesterol
 CC acyltransferase-1 mRNA is produced from genes on two different
 CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
 CC involving trans-splicing of the two discontinuous precursor mRNAs. The
 CC oligonucleotides of the invention are useful for the prevention and
 CC treatment of conditions associated with acyl coenzyme A cholesterol
 CC acyltransferase-1, such as disorders involving abnormal lipid or
 CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
 CC They are also useful in research and diagnostics for modulating the
 CC expression of acyl coenzyme A cholesterol acyltransferase-1
 CC
 CC Sequence 20 BP; 2 A; 6 C; 6 G; 6 T; 0 U; 0 Other;
 SQ
 Query Match 1.2%; Score 20; DB 1; Length 20;
 Best Local Similarity 100.0%; Pred. No. 18;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 881 ACTGCTGCGACAGAGACG 900
 Db 20 ACTGCTGCGACAGAGACG 1
 RESULT 12
 AB274911/c
 ID AB274911 standard; DNA; 20 BP.
 XX
 AC AB274911;
 XX
 DT 10-MAY-2003 (first entry)

XX Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #31.
DE
XX Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KW chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
KW free sterol regulation; cholesterol metabolism disorder;
KW lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KW cardiant; expression inhibition; phosphorochioate;
KM antisense oligonucleotide; ss.
XX
XX Homo sapiens.
OS
XX
XX Key Location/Qualifiers
FT modified_base 1..20
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Phosphorochioate linkages"
FT modified_base 1..5
FT /*tag= b
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT cytosines are 5-methylcytosine"
FT modified_base 16..20
FT /*tag= c
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT cytosines are 5-methylcytosine"
FT
FT
XX WO2003012144-A1.
XX
XX 13-FEB-2003.
PD
XX 17-JUL-2002; 2002WO-US022696.
XX
XX 01-AUG-2001; 2001US-00920394.
PR
XX (ISIS-) ISIS PHARM INC.
PA
XX Crooke RM, Graham MJ, Lemonidis KM;
XX
XX WPI; 2003-239532/23.
DR
XX
XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl
PT coenzyme A cholesterol acyltransferase-1, useful for treating a
PT disease/condition involving abnormal lipid or cholesterol metabolism,
e.g. atherosclerosis.
PT
XX
XX Claim 3; Page 91; 117pp; English.
PS
XX
XX Sequences AB274897-AB274942 represent antisense oligonucleotides targeted
CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1
CC gene, which inhibit its expression. The antisense oligonucleotides were
CC designed to target different regions of the human or murine acyl coenzyme
CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
CC concentration of cellular free sterols. The human acyl coenzyme A
CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the
CC liver, and the gene encoding it is located on chromosome 1q25, although a
CC subsequent study has indicated that one acyl coenzyme A cholesterol
CC acyltransferase-1 mRNA is produced from genes on two different
CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
CC involving trans-splicing of the two discontinuous precursor mRNAs. The
CC oligonucleotides of the invention are useful for the prevention and
CC treatment of conditions associated with acyl coenzyme A cholesterol
CC acyltransferase-1, such as disorders involving abnormal lipid or
CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
CC They are also useful in research and diagnosis for modulating the
CC expression of acyl coenzyme A cholesterol acyltransferase-1
XX
XX Sequence 20 BP; 3 A; 6 C; 2 G; 9 T; 0 U; 0 Other;

Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Gaps 0;
Oy 1231 GAGAAATACCTTAGAGGAC 1250
Db 20 GAGAAATACCTTAGAGGAC 1
RESULT 13
AB274912/c
ID AB274912 standard; DNA; 20 BP.
XX
XX AC AB274912;
XX
XX 10-MAY-2003 (first entry)
XX
XX Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #32.
DE
XX Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KW chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
KW free sterol regulation; cholesterol metabolism disorder;
KW lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KW cardiant; expression inhibition; phosphorochioate;
KM antisense oligonucleotide; ss.
XX
XX Homo sapiens.
OS
XX
XX Key Location/Qualifiers
FT modified_base 1..20
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Phosphorochioate linkages"
FT modified_base 1..5
FT /*tag= b
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT cytosines are 5-methylcytosine"
FT modified_base 16..20
FT /*tag= c
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT cytosines are 5-methylcytosine"
FT
XX WO2003012144-A1.
XX
XX 13-FEB-2003.
PD
XX 17-JUL-2002; 2002WO-US022696.
XX
XX 01-AUG-2001; 2001US-00920394.
PR
XX (ISIS-) ISIS PHARM INC.
PA
XX Crooke RM, Graham MJ, Lemonidis KM;
XX
XX WPI; 2003-239532/23.
DR
XX
XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl
PT coenzyme A cholesterol acyltransferase-1, useful for treating a
PT disease/condition involving abnormal lipid or cholesterol metabolism,
e.g. atherosclerosis.
PT
XX
XX Example 15; Page 91; 117pp; English.
PS
XX
XX Sequences AB274897-AB274942 represent antisense oligonucleotides targeted
CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1
CC gene, which inhibit its expression. The antisense oligonucleotides were
CC designed to target different regions of the human or murine acyl coenzyme
CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase

CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
CC concentration of cellular free sterols. The human acyl coenzyme A
CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the
CC liver, and the gene encoding it is located on chromosome 1q25, although a
CC subsequent study has indicated that one acyl coenzyme A cholesterol
CC acyltransferase-1 mRNA is produced from genes on two different
CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
CC involving trans-splicing of the two discontinuous precursor mRNAs. The
CC oligonucleotides of the invention are useful for the prevention and
CC treatment of conditions associated with acyl coenzyme A cholesterol
CC acyltransferase-1, such as disorders involving abnormal lipid or
CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
CC They are also useful in research and diagnostics for modulating the
CC expression of acyl coenzyme A cholesterol acyltransferase-1
XX
SQ Sequence 20 BP; 8 A; 6 C; 4 G; 2 T; 0 U; 0 Other;
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1311 TGTCCCATCTGTGATGTGG 1330
Db 20 TGTCCCATCTGTGATGTGG 1
RESULT 14
ABZ74897/c
ID ABZ74897 standard; DNA; 20 BP.
XX
AC ABZ74897;
XX
DT 10-MAY-2003 (first entry)
XX
DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #17.
XX
KW Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KW chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
KW free sterol regulation; cholesterol metabolism disorder;
KW lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KW cardiant; expression inhibition; phosphorothioate;
KW antisense oligonucleotide; ss.
XX
OS Homo sapiens.
XX
FH Key location/Qualifiers
FT modified_base 1..20
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Phosphorothioate linkages"
DT modified_base 1..5
XX /*tag= b
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT modified_base 16..20
FT cytosines are 5-methylcytosine"
FT /*tag= c
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT cytosines are 5-methylcytosine"
XX
WO2003012144-A1.
XX
PD 13-FEB-2003.
XX
PF 17-JUL-2002; 2002WO-US022696.
XX
PR 01-AUG-2001; 2001US-00920394.
XX
PA (ISIS-) ISIS PHARM INC.
XX
PI Crooke RM, Graham MJ, Lemonidis KM;

XX
DR WPI; 2003-239532/23.
XX
PT New antisense oligonucleotides targeted to a nucleic acid encoding acyl
PT coenzyme A cholesterol acyltransferase-1, useful for treating a
PT disease/condition involving abnormal lipid or cholesterol metabolism,
PT e.g. atherosclerosis.
XX
PS Claim 3; Page 90; 117pp; English.
XX
CC Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted
CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1
CC gene, which inhibit its expression. The antisense oligonucleotides were
CC designed to target different regions of the human or murine acyl coenzyme
CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
CC concentration of cellular free sterols. The human acyl coenzyme A
CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the
CC liver, and the gene encoding it is located on chromosome 1q25, although a
CC subsequent study has indicated that one acyl coenzyme A cholesterol
CC acyltransferase-1 mRNA is produced from genes on two different
CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
CC involving trans-splicing of the two discontinuous precursor mRNAs. The
CC oligonucleotides of the invention are useful for the prevention and
CC treatment of conditions associated with acyl coenzyme A cholesterol
CC acyltransferase-1, such as disorders involving abnormal lipid or
CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
CC They are also useful in research and diagnostics for modulating the
CC expression of acyl coenzyme A cholesterol acyltransferase-1
XX
SQ Sequence 20 BP; 6 A; 6 C; 6 G; 2 T; 0 U; 0 Other;
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 14 TGTGGCCCTTCACGATGTGG 33
Db 20 TGTGGCCCTTCACGATGTGG 1

RESULT 15
ABZ74901/c
ID ABZ74901 standard; DNA; 20 BP.
XX
AC ABZ74901;
XX
DT 10-MAY-2003 (first entry)
XX
DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #21.
XX
KW Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KW chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
KW free sterol regulation; cholesterol metabolism disorder;
KW lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KW cardiant; expression inhibition; phosphorothioate;
KW antisense oligonucleotide; ss.
XX
OS Homo sapiens.
XX
FH Key location/Qualifiers
FT modified_base 1..20
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Phosphorothioate linkages"
DT modified_base 1..5
XX /*tag= b
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT cytosines are 5-methylcytosine"
FT

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FT			/mod_base= OTHER
FT			/note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT			cytosines are 5-methylcytosine"
XX			
XX			
PN	WO2003012144-A1.		
XX			
PD	13-FEB-2003.		
XX			
XX			
PF	17-JUL-2002; 2002WO-US022696.		
XX			
PR	01-AUG-2001; 2001US-00920394.		
XX			
PA	(ISIS-) ISIS PHARM INC.		
XX			
P1	Crooke RM, Graham MJ, Lemonidis KM;		
XX			
DR	WPI; 2003-239532/23.		
XX			
PT	New antisense oligonucleotides targeted to a nucleic acid encoding acyl		
PT	coenzyme A cholesterol acyltransferase-1, useful for treating a		
PT	disease/condition involving abnormal lipid or cholesterol metabolism,		
XX	e.g. atherosclerosis.		
PS			
XX	Claim 3; Page 91, 117pp; English.		
XX			
CC	Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted		
CC	to the human or murine acyl coenzyme A cholesterol acyltransferase-1		
CC	gene, which inhibit its expression. The antisense oligonucleotides were		
CC	designed to target different regions of the human or murine acyl coenzyme		
CC	A cholesterol acyltransferase-1 RNA, and were analysed for their effect		
CC	on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by		
CC	quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase		
CC	(ACAT) enzymes catalyse the synthesis of cholesterol esters from free		
CC	cholesterol and fatty acyl-CoA, and are also involved in regulating the		
CC	concentration of cellular free sterols. The human acyl coenzyme A		
CC	cholesterol acyltransferase-1 is the predominant ACAT isoform in the		
CC	liver, and the gene encoding it is located on chromosome 1q25, although a		
CC	subsequent study has indicated that one acyl coenzyme A cholesterol		
CC	acyltransferase-1 mRNA is produced from genes on two different		
CC	chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism		
CC	involving trans-splicing of the two discontinuous precursor mRNAs. The		
CC	oligonucleotides of the invention are useful for the prevention and		
CC	treatment of conditions associated with acyl coenzyme A cholesterol		
CC	acyltransferase-1, such as disorders involving abnormal lipid or		
CC	cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.		
CC	They are also useful in research and diagnostics for modulating the		
CC	expression of acyl coenzyme A cholesterol acyltransferase-1		
XX			
SQ	Sequence 20 BP; 5 A; 8 C; 4 G; 3 T; 0 U; 0 Other;		
	Query Match	1.2%; Score 20; DB 1; Length 20;	
	Best Local Similarity	100.0%; Pred. NO. 18;	
	Matches	20; Conservative	0; Mismatches
		0; Indels	0; Gaps
OY	431 CGGTGATGTGTGATCCAC 450		
Db	20 CGGTGATGTGTGATCCAC 1		
RESULT 16			
ID	ABZ74899/C		
XX	ABZ74899 standard; DNA; 20 BP.		
XX			
AC	ABZ74899;		
XX			
DT	10-MAY-2003 (first entry)		
DE	Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #19.		
XX			
XX	Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;		
KW	chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;		

Query Match	Similarity	Score	DB	Length	Matches	Conservative	Mismatches	Indels	Gaps
1.2%	100.0%	20	18	20	0	0	0	0	0

QY 121 GGCAAGTCTGGGCAAGTT 140
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 Db 20 GGCAAGTCTGGGCAAGTT 1
 |||||

RESULT 17
 ABZ74900/c
 ID ABZ74900 standard; DNA; 20 BP.
 AC
 XX ABZ74900;
 XX
 DT 10-MAY-2003 (first entry)
 XX
 DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #20.
 XX
 KW Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
 KM chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
 KM free sterol regulation; cholesterol metabolism disorder;
 KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;
 KM cardiac; expression inhibition; phosphorothioate;
 KM antisense oligonucleotide; ss.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT modified_base 1..20
 FT /*tag= a
 FT /mod_base= OTHER
 FT /note= "Phosphorothioate linkages"
 FT modified_base 1..5
 FT /*tag= b
 FT /mod_base= OTHER
 FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
 FT modified_base 16..20
 FT /*tag= c
 FT /mod_base= OTHER
 FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
 FT cytosines are 5-methylcytosine"
 FT cytosines are 5-methylcytosine"
 PN WO2003012144-A1.
 XX
 PD 13-FEB-2003.
 XX
 PF 17-JUL-2002; 2002WO-US022696.
 XX
 PR 01-AUG-2001; 2001US-00920394.
 XX
 PA (ISIS-) ISIS PHARM INC.
 XX
 PI Crooke RM, Graham MJ, Lemonidis KM;
 XX
 DR WPI; 2003-239532/23.
 XX
 PT New antisense oligonucleotides targeted to a nucleic acid encoding acyl
 PT coenzyme A cholesterol acyltransferase-1, useful for treating a
 PT disease/condition involving abnormal lipid or cholesterol metabolism,
 PT e.g. atherosclerosis.
 XX
 PS Example 15; Page 91, 117pp; English.
 XX
 CC Sequences ABZ74997-ABZ74942 represent antisense oligonucleotides targeted
 CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1
 CC gene, which inhibit its expression. The antisense oligonucleotides were
 CC designed to target different regions of the human or murine acyl coenzyme
 CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
 CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
 CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
 CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
 CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
 CC concentration of cellular free sterols. The human acyl coenzyme A
 CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the
 CC liver, and the gene encoding it is located on chromosome 1q25, although a

CC subsequent study has indicated that one acyl coenzyme A cholesterol
 CC acyltransferase-1 mRNA is produced from genes on two different
 CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
 CC involving trans-splicing of the two discontinuous precursor mRNAs. The
 CC oligonucleotides of the invention are useful for the prevention and
 CC treatment of conditions associated with acyl coenzyme A cholesterol
 CC acyltransferase-1, such as disorders involving abnormal lipid or
 CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
 CC They are also useful in research and diagnostics for modulating the
 CC expression of acyl coenzyme A cholesterol acyltransferase-1
 XX

SO Sequence 20 BP; 3 A; 4 C; 7 G; 6 T; 0 U; 0 Other;
 Query Match 1.2%; Score 20; DB 1; Length 20;
 Best Local Similarity 100.0%; Pred. No. 18;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 261 GAAGAATGCCACTCTGTACC 280
 |||||
 Db 20 GAAGAATGCCACTCTGTACC 1
 |||||

RESULT 18
 ABZ74903/c
 ID ABZ74903 standard; DNA; 20 BP.
 AC
 XX ABZ74903;
 XX
 DT 10-MAY-2003 (first entry)
 XX
 DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #29.
 XX
 KW Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
 KM chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
 KM free sterol regulation; cholesterol metabolism disorder;
 KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;
 KM cardiac; expression inhibition; phosphorothioate;
 KM antisense oligonucleotide; ss.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT modified_base 1..20
 FT /*tag= a
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 FT /note= "Phosphorothioate linkages"
 FT modified_base 1..5
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 FT /mod_base= OTHER
 FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
 FT modified_base 16..20
 FT /*tag= c
 FT /mod_base= OTHER
 FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
 FT cytosines are 5-methylcytosine"
 FT cytosines are 5-methylcytosine"
 PN WO2003012144-A1.
 XX
 PD 13-FEB-2003.
 XX
 PF 17-JUL-2002; 2002WO-US022696.
 XX
 PR 01-AUG-2001; 2001US-00920394.
 XX
 PA (ISIS-) ISIS PHARM INC.
 XX
 PI Crooke RM, Graham MJ, Lemonidis KM;
 XX
 DR WPI; 2003-239532/23.
 XX
 PT New antisense oligonucleotides targeted to a nucleic acid encoding acyl
 PT coenzyme A cholesterol acyltransferase-1, useful for treating a

PT disease/condition involving abnormal lipid or cholesterol metabolism,
 PT e.g. atherosclerosis.
 XX Example 15; Page 91; 117pp; English.
 CC Sequences AB274897-AB274942 represent antisense oligonucleotides targeted
 CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1
 CC gene, which inhibit its expression. The antisense oligonucleotides were
 CC designed to target different regions of the human or murine acyl coenzyme
 CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
 CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
 CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
 CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
 CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
 CC concentration of cellular free sterols. The human ACAT isoform in the
 CC liver, and the gene encoding it is located on chromosome 1q25, although a
 CC subsequent study has indicated that one acyl coenzyme A cholesterol
 CC acyltransferase-1 mRNA is produced from genes on two different
 CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
 CC involving trans-splicing of the two discontinuous precursor mRNAs. The
 CC oligonucleotides of the invention are useful for the prevention and
 CC treatment of conditions associated with acyl coenzyme A cholesterol
 CC acyltransferase-1, such as disorders involving abnormal lipid or
 CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
 CC They are also useful in research and diagnostics for modulating the
 CC expression of acyl coenzyme A cholesterol acyltransferase-1
 CC
 SQ Sequence 20 BP; 3 A; 7 C; 3 G; 7 T; 0 U; 0 Other;
 Query Match 1.2%; Score 20; DB 1; Length 20;
 Best Local Similarity 100.0%; Pred. NO. 18;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 1071 GGTGGATTACACAGCAGG 1090
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 Db 20 GGTGGATTACACAGCAGG 1
 |||||
 RESULT 19
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 ID AB274898 standard; DNA; 20 BP.
 XX
 AC AB274898;
 XX
 DT 10-MAY-2003 (first entry)
 XX
 DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #18.
 XX
 KW Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
 KW chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
 KW free sterol regulation; cholesterol metabolism disorder;
 KW lipid metabolism disorder; atherosclerosis; cardiovascular disease;
 KW cardant; expression inhibition; phosphorothioate;
 KW antisense oligonucleotide; ss.
 XX
 OS Homo sapiens.
 XX
 FH Key Location/Qualifiers
 FT modified_base 1..20
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 FT /mod_base= OTHER
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 FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
 FT modified_base 16..20
 FT /*tag= c
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 FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
 FT cytosines are 5-methylcytosine"
 FT cytosines are 5-methylcytosine"

XX
 PN WO2003012144-A1.
 XX
 PD 13-FEB-2003.
 XX
 PF 17-JUL-2002; 2002MO-US022696.
 XX
 PR 01-AUG-2001; 2001US-00920394.
 XX
 PA (ISIS-) ISIS PHARM INC.
 XX
 PI Crooke RM, Graham MJ, Lemonidis KM;
 DR WPI; 2003-239537/23.
 XX
 PT New antisense oligonucleotides targeted to a nucleic acid encoding acyl
 PT coenzyme A cholesterol acyltransferase-1, useful for treating a
 PT disease/condition involving abnormal lipid or cholesterol metabolism,
 PT e.g. atherosclerosis.
 XX
 PS Claim 3; Page 90; 117pp; English.
 XX
 CC Sequences AB274897-AB274942 represent antisense oligonucleotides targeted
 CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1
 CC gene, which inhibit its expression. The antisense oligonucleotides were
 CC designed to target different regions of the human or murine acyl coenzyme
 CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect
 CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
 CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
 CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
 CC cholesterol and fatty acyl-CoA, and are also involved in regulating the
 CC concentration of cellular free sterols. The human acyl coenzyme A
 CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the
 CC liver, and the gene encoding it is located on chromosome 1q25, although a
 CC subsequent study has indicated that one acyl coenzyme A cholesterol
 CC acyltransferase-1 mRNA is produced from genes on two different
 CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
 CC involving trans-splicing of the two discontinuous precursor mRNAs. The
 CC oligonucleotides of the invention are useful for the prevention and
 CC treatment of conditions associated with acyl coenzyme A cholesterol
 CC acyltransferase-1, such as disorders involving abnormal lipid or
 CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
 CC They are also useful in research and diagnostics for modulating the
 CC expression of acyl coenzyme A cholesterol acyltransferase-1
 CC
 SQ Sequence 20 BP; 6 A; 8 C; 6 G; 0 T; 0 U; 0 Other;
 Query Match 1.2%; Score 20; DB 1; Length 20;
 Best Local Similarity 100.0%; Pred. NO. 18;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 61 TCTGCTTCGCGGCTTGCGG 80
 |||||
 Db 20 TCTGCTTCGCGGCTTGCGG 1
 |||||
 RESULT 20
 AB274904/c
 ID AB274904 standard; DNA; 20 BP.
 XX
 AC AB274904;
 XX
 DT 10-MAY-2003 (first entry)
 XX
 DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #24.
 XX
 KW Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
 KW chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
 KW free sterol regulation; cholesterol metabolism disorder;
 KW lipid metabolism disorder; atherosclerosis; cardiovascular disease;
 KW cardant; expression inhibition; phosphorothioate;
 KW antisense oligonucleotide; ss.
 XX

```

OS Homo sapiens.
XX Key Location/Qualifiers
FH modified_base 1..20
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FT /mod_base= OTHER
FT /note= "Phosphorothioate linkages"
FT modified_base 1..5
FT /*tag= b
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT modified_base 16..20
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT /note= "2'-methoxycytosine"
FT cytosines are 5-methylcytosine"
XX
XX W02003012144-A1.
XX
XX 13-FEB-2003.
XX
XX 17-JUL-2002; 2002W0-US022696.
XX
XX 01-AUG-2001; 2001US-00920394.
XX
XX (ISIS-) ISIS PHARM INC.
XX
XX Crooke RM, Graham MJ, Lemonidis KM,
XX WPI; 2003-239532/23.
XX
XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl
XX coenzyme A cholesterol acyltransferase-1, useful for treating a
XX disease/condition involving abnormal lipid or cholesterol metabolism,
XX e.g. atherosclerosis.
XX
XX Example 15; Page 91; 117pp; English.
XX
XX Sequences ABZ74987-ABZ74942 represent antisense oligonucleotides targeted
XX to the human or murine acyl coenzyme A cholesterol acyltransferase-1
XX gene, which inhibit its expression. The antisense oligonucleotides were
XX designed to target different regions of the human or murine acyl coenzyme
XX A cholesterol acyltransferase-1 RNA, and were analysed for their effect
XX on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
XX quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
XX (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
XX cholesterol and fatty acyl-CoA, and are also involved in regulating the
XX concentration of cellular free sterols. The human acyl coenzyme A
XX cholesterol acyltransferase-1 is the predominant ACAT isoform in the
XX liver, and the gene encoding it is located on chromosome 1q25, although a
XX subsequent study has indicated that one acyl coenzyme A cholesterol
XX acyltransferase-1 mRNA is produced from genes on two different
XX chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
XX involving trans-splicing of the two discontinuous precursor mRNAs. The
XX oligonucleotides of the invention are useful for the prevention and
XX treatment of conditions associated with acyl coenzyme A cholesterol
XX acyltransferase-1, such as disorders involving abnormal lipid or
XX cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
XX They are also useful in research and diagnostics for modulating the
XX expression of acyl coenzyme A cholesterol acyltransferase-1
XX
XX Sequence 20 BP; 4 A; 9 C; 3 G; 4 T; 0 U; 0 Other;
XX
XX Query Match 1.2%; Score 20; DB 1; Length 20;
XX Best Local Similarity 100.0%; Pred. No. 18;
XX Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 681 CTTTGAGAGTCACGCGGAG 700
XX |||||||
XX |||||||
Db 20 CTTTGAGAGTCACGCGGAG 1

```

```

RESULT 21
ABZ74908/c
ID ABZ74908 standard; DNA: 20 BP.
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XX AC
XX AC ABZ74908;
XX
XX 10-MAY-2003 (first entry)
XX
XX Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #28.
XX
XX Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
XX chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
XX free sterol regulation; cholesterol metabolism disorder;
XX lipid metabolism disorder; atherosclerosis; cardiovascular disease;
XX cardiac; expression inhibition; phosphorothioate;
XX antisense oligonucleotide; ss.
XX
XX OS Homo sapiens.
XX
XX FH Key Location/Qualifiers
FH modified_base 1..20
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Phosphorothioate linkages"
FT modified_base 1..5
FT /*tag= b
FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT modified_base 16..20
FT /mod_base= OTHER
FT /note= "2'-methoxycytosine"
FT cytosines are 5-methylcytosine"
XX
XX W02003012144-A1.
XX
XX 13-FEB-2003.
XX
XX 17-JUL-2002; 2002W0-US022696.
XX
XX 01-AUG-2001; 2001US-00920394.
XX
XX (ISIS-) ISIS PHARM INC.
XX
XX Crooke RM, Graham MJ, Lemonidis KM,
XX WPI; 2003-239532/23.
XX
XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl
XX coenzyme A cholesterol acyltransferase-1, useful for treating a
XX disease/condition involving abnormal lipid or cholesterol metabolism,
XX e.g. atherosclerosis.
XX
XX Claim 3; Page 91; 117pp; English.
XX
XX Sequences ABZ74987-ABZ74942 represent antisense oligonucleotides targeted
XX to the human or murine acyl coenzyme A cholesterol acyltransferase-1
XX gene, which inhibit its expression. The antisense oligonucleotides were
XX designed to target different regions of the human or murine acyl coenzyme
XX A cholesterol acyltransferase-1 RNA, and were analysed for their effect
XX on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
XX quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
XX (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
XX cholesterol and fatty acyl-CoA, and are also involved in regulating the
XX concentration of cellular free sterols. The human acyl coenzyme A
XX cholesterol acyltransferase-1 is the predominant ACAT isoform in the
XX liver, and the gene encoding it is located on chromosome 1q25, although a
XX subsequent study has indicated that one acyl coenzyme A cholesterol
XX acyltransferase-1 mRNA is produced from genes on two different
XX chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
XX involving trans-splicing of the two discontinuous precursor mRNAs. The
XX oligonucleotides of the invention are useful for the prevention and

```


XX Sequences ABZ74884-ABZ74885 represent human acyl coenzyme A cholesterol acyltransferase-1 PCR primers used in quantitative real-time PCR with probe ABZ74886 in an exemplification of the present invention. The invention relates to antisense oligonucleotides targeted to the human or mouse acyl coenzyme A cholesterol acyltransferase-1 gene, which inhibit its expression. A series of oligonucleotides (ABZ74897-ABZ74942) were designed to target different regions of the human or murine acyl coenzyme A cholesterol acyltransferase-1 RNA, and were analysed for their effect on mRNA levels by quantitative real-time PCR. GAPDH (glyceraldehyde-3-phosphate) mRNA levels were measured as a control. Acyl coenzyme A cholesterol acyltransferase (ACAT) enzymes catalyse the synthesis of cholesterol esters from free cholesterol and fatty acyl-CoA, and are also involved in regulating the concentration of cellular free sterols. The human acyl coenzyme A cholesterol acyltransferase-1 is the predominant ACAT isoform in the liver, and the gene encoding it is located on chromosome 1q25, although a subsequent study has indicated that one acyl coenzyme A cholesterol acyltransferase-1 mRNA is produced from genes on two different chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism involving trans-splicing of the two discontinuous precursor mRNAs. The oligonucleotides of the invention are useful for the prevention and treatment of conditions associated with acyl coenzyme A cholesterol acyltransferase-1, such as disorders involving abnormal lipid or cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease. They are also useful in research and diagnostics for modulating the expression of acyl coenzyme A cholesterol acyltransferase-1

SQ Sequence 20 BP; 5 A; 2 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1513 ATGGTGATGAATCTGGGC 1532
|||||
1 ATGGTGATGAATCTGGGC 20

RESULT 24
ABZ74885/c
ID ABZ74885 standard; DNA; 20 BP.
AC ABZ74885;
XX

DT 10-MAY-2003 (first entry)
XX

DE Human acyl coenzyme A cholesterol acyltransferase-1 PCR primer #5.

XX Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KM chromosome 1q25; chromosome 1; cholesterol metabolism;
KM free sterol regulation; cholesterol metabolism disorder;
KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KM cardiant; expression inhibition; antisense therapy;
KM quantitative real-time PCR; primer; ss.

XX Homo sapiens.

PN WO2003012144-A1.

PD 13-FEB-2003.

PF 17-JUL-2002; 2002WO-US022696.

PR 01-AUG-2001; 2001US-00920394.

PA (ISIS-) ISIS PHARM INC.

PI Crooke RM, Graham MJ, Lemonidis KM;

XX WPI; 2003-239532/23.

PT New antisense oligonucleotides targeted to a nucleic acid encoding acyl coenzyme A cholesterol acyltransferase-1, useful for treating a

PT disease/condition involving abnormal lipid or cholesterol metabolism,
PT e.g. atherosclerosis.

PS Example 13; Page 87; 117pp; English.

XX Sequences ABZ74884-ABZ74885 represent human acyl coenzyme A cholesterol acyltransferase-1 PCR primers used in quantitative real-time PCR with probe ABZ74886 in an exemplification of the present invention. The invention relates to antisense oligonucleotides targeted to the human or mouse acyl coenzyme A cholesterol acyltransferase-1 gene, which inhibit its expression. A series of oligonucleotides (ABZ74897-ABZ74942) were designed to target different regions of the human or murine acyl coenzyme A cholesterol acyltransferase-1 RNA, and were analysed for their effect on mRNA levels by quantitative real-time PCR. GAPDH (glyceraldehyde-3-phosphate) mRNA levels were measured as a control. Acyl coenzyme A cholesterol acyltransferase (ACAT) enzymes catalyse the synthesis of cholesterol esters from free cholesterol and fatty acyl-CoA, and are also involved in regulating the concentration of cellular free sterols. The human acyl coenzyme A cholesterol acyltransferase-1 is the predominant ACAT isoform in the liver, and the gene encoding it is located on chromosome 1q25, although a subsequent study has indicated that one acyl coenzyme A cholesterol acyltransferase-1 mRNA is produced from genes on two different chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism involving trans-splicing of the two discontinuous precursor mRNAs. The oligonucleotides of the invention are useful for the prevention and treatment of conditions associated with acyl coenzyme A cholesterol acyltransferase-1, such as disorders involving abnormal lipid or cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease. They are also useful in research and diagnostics for modulating the expression of acyl coenzyme A cholesterol acyltransferase-1

SQ Sequence 20 BP; 1 A; 8 C; 3 G; 8 T; 0 U; 0 Other;

Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1685 CCAAGAGGCGATGGAGAAG 1704
|||||
20 CCAAGAGGCGATGGAGAAG 1

RESULT 25
ABZ74906/c
ID ABZ74906 standard; DNA; 20 BP.
AC ABZ74906;
XX

DT 10-MAY-2003 (first entry)
XX

DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #26.

XX Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
KM chromosome 1q25; chromosome 1; cholesterol metabolism;
KM free sterol regulation; cholesterol metabolism disorder;
KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;
KM cardiant; expression inhibition; phosphorothioate;
KM antisense oligonucleotide; ss.

XX Homo sapiens.

OS Key Location/Qualifiers

FT modified_base 1..20

FT /note= "Phosphorothioate linkages"

FT modified_base 1..5

FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE

FT modified_base 16..20

FT /note= "5-methylcytosine"

FT /note= "5-methylcytosine"

```

FT /mod_base= OTHER
FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
XX cytosines are 5-methylcytosine"
XX
XX MO2003012144-A1.
XX
XX 13-FEB-2003.
XX
XX 17-JUL-2002; 2002MO-US022696.
XX
XX 01-AUG-2001; 2001US-00920394.
XX
XX (ISIS-) ISIS PHARM INC.
XX
XX Crooke RM, Graham MJ, Lemonidis KM,
XX WPI; 2003-239532/23.
XX
XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl
PT coenzyme A cholesterol acyltransferase-1, useful for treating a
PT disease/condition involving abnormal lipid or cholesterol metabolism,
PT e.g., atherosclerosis.
XX
XX Claim 3; Page 91; 117pp; English.
XX
XX Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted
XX to the human or murine acyl coenzyme A cholesterol acyltransferase-1
XX gene, which inhibit its expression. The antisense oligonucleotides were
XX designed to target different regions of the human or murine acyl coenzyme
XX A cholesterol acyltransferase-1 RNA, and were analysed for their effect
XX on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
XX quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
XX (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
XX cholesterol and fatty acyl-CoA, and are also involved in regulating the
XX concentration of cellular free sterols. The human acyl coenzyme A
XX cholesterol acyltransferase-1 is the predominant ACAT isoform in the
XX liver, and the gene encoding it is located on chromosome 1q25, although a
XX subsequent study has indicated that one acyl coenzyme A cholesterol
XX acyltransferase-1 mRNA is produced from genes on two different
XX chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
XX involving trans-splicing of the two discontinuous precursor mRNAs. The
XX oligonucleotides of the invention are useful for the prevention and
XX treatment of conditions associated with acyl coenzyme A cholesterol
XX acyltransferase-1, such as disorders involving abnormal lipid or
XX cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
XX They are also useful in research and diagnostics for modulating the
XX expression of acyl coenzyme A cholesterol acyltransferase-1
XX
XX Sequence 20 BP; 7 A; 5 C; 4 G; 4 T; 0 U; 0 Other;
SQ
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 831 AATTGCTATCATCGCTGGGT 850
Db 20 AATTGCTATCATCGCTGGGT 1

```

```

KM cardiant; expression inhibition; phosphorothioate;
XX antisense oligonucleotide; ss.
XX Homo sapiens.
XX
XX Key Location/Qualifiers
XX modified_base 1..20
XX /+tag= a
XX /mod_base= OTHER
XX /note= "Phosphorothioate linkages"
XX modified_base 1..5
XX /+tag= b
XX /mod_base= OTHER
XX /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
XX cytosines are 5-methylcytosine"
XX modified_base 16..20
XX /+tag= c
XX /mod_base= OTHER
XX /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
XX cytosines are 5-methylcytosine"
XX
XX MO2003012144-A1.
XX
XX 13-FEB-2003.
XX
XX 17-JUL-2002; 2002MO-US022696.
XX
XX 01-AUG-2001; 2001US-00920394.
XX
XX (ISIS-) ISIS PHARM INC.
XX
XX Crooke RM, Graham MJ, Lemonidis KM;
XX WPI; 2003-239532/23.
XX
XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl
PT coenzyme A cholesterol acyltransferase-1, useful for treating a
PT disease/condition involving abnormal lipid or cholesterol metabolism,
PT e.g., atherosclerosis.
XX
XX Claim 3; Page 91; 117pp; English.
XX
XX Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted
XX to the human or murine acyl coenzyme A cholesterol acyltransferase-1
XX gene, which inhibit its expression. The antisense oligonucleotides were
XX designed to target different regions of the human or murine acyl coenzyme
XX A cholesterol acyltransferase-1 RNA, and were analysed for their effect
XX on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
XX quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
XX (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
XX cholesterol and fatty acyl-CoA, and are also involved in regulating the
XX concentration of cellular free sterols. The human acyl coenzyme A
XX cholesterol acyltransferase-1 is the predominant ACAT isoform in the
XX liver, and the gene encoding it is located on chromosome 1q25, although a
XX subsequent study has indicated that one acyl coenzyme A cholesterol
XX acyltransferase-1 mRNA is produced from genes on two different
XX chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
XX involving trans-splicing of the two discontinuous precursor mRNAs. The
XX oligonucleotides of the invention are useful for the prevention and
XX treatment of conditions associated with acyl coenzyme A cholesterol
XX acyltransferase-1, such as disorders involving abnormal lipid or
XX cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
XX They are also useful in research and diagnostics for modulating the
XX expression of acyl coenzyme A cholesterol acyltransferase-1
XX
XX Sequence 20 BP; 6 A; 8 C; 1 G; 5 T; 0 U; 0 Other;
SQ
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1512 GATGCTGATGAATTCTGGG 1531

```

DB 20 GATGATGATGAATTCGGG 1

RESULT 27

ABZ74915/C

ID ABZ74915 standard; DNA; 20 BP.

XX

AC ABZ74915;

XX

XX 10-MAY-2003 (first entry)

XX

DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #35.

XX

XX Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;

XX chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;

KM free sterol regulation; cholesterol metabolism disorder;

KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;

KM cardiant; expression inhibition; phosphorothioate;

XX antisense oligonucleotide; ss.

XX

OS Homo sapiens.

XX

PH Key location/Qualifiers

FT modified_base 1..20

FT /*tag= a

FT /mod_base= OTHER

FT /note= "Phosphorothioate linkages"

FT modified_base 1..5

FT /*tag= b

FT /mod_base= OTHER

FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE

FT modified_base 16..20

FT /*tag= c

FT /mod_base= OTHER

FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE

FT cytosines are 5-methylcytosine"

XX

XX MO2003012144-A1.

XX

PD 13-FEB-2003.

XX

XX 17-JUL-2002; 2002MO-US022696.

XX

XX 01-AUG-2001; 2001US-00920394.

XX

XX (ISIS-) ISIS PHARM INC.

XX

XX Crooke RM, Graham MJ, Lemonidis KM;

XX

XX WPI; 2003-239532/23.

XX

XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl

PT coenzyme A cholesterol acyltransferase-1, useful for treating a

PT disease/condition involving abnormal lipid or cholesterol metabolism,

PT e.g. atherosclerosis.

XX

XX Claim 3; Page 91; 117pp; English.

XX

XX Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted

CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1

CC gene, which inhibit its expression. The antisense oligonucleotides were

CC designed to target different regions of the human or murine acyl coenzyme

CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect

CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by

CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase

CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free

CC cholesterol and fatty acyl-CoA, and are also involved in regulating the

CC concentration of cellular free sterols. The human acyl coenzyme A

CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the

CC liver, and the gene encoding it is located on chromosome 1q25, although a

CC subsequent study has indicated that one acyl coenzyme A cholesterol

CC acyltransferase-1 mRNA is produced from genes on two different

CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism

CC involving trans-splicing of the two discontinuous precursor mRNAs. The

CC oligonucleotides of the invention are useful for the prevention and

CC treatment of conditions associated with acyl coenzyme A cholesterol

CC acyltransferase-1, such as disorders involving abnormal lipid or

CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.

CC They are also useful in research and diagnostics for modulating the

CC expression of acyl coenzyme A cholesterol acyltransferase-1

XX

SQ Sequence 20 BP; 4 A; 5 C; 6 G; 5 T; 0 U; 0 Other;

Query Match 1.2%; Score 20; DB 1; Length 20;

Best Local Similarity 100.0%; Pred. No. 18;

Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Cy 1610 TGCAGATTGGTGCCACACC 1629

DB 20 TGCAGATTGGTGCCACACC 1

RESULT 28

ABZ74905/C

ID ABZ74905 standard; DNA; 20 BP.

XX

AC ABZ74905;

XX

XX 10-MAY-2003 (first entry)

XX

DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #25.

XX

XX Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;

KM chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;

KM free sterol regulation; cholesterol metabolism disorder;

KM lipid metabolism disorder; atherosclerosis; cardiovascular disease;

KM cardiant; expression inhibition; phosphorothioate;

XX antisense oligonucleotide; ss.

XX

OS Homo sapiens.

XX

PH Key location/Qualifiers

FT modified_base 1..20

FT /*tag= a

FT /mod_base= OTHER

FT /note= "Phosphorothioate linkages"

FT modified_base 1..5

FT /*tag= b

FT /mod_base= OTHER

FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE

FT modified_base 16..20

FT /*tag= c

FT /mod_base= OTHER

FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE

FT cytosines are 5-methylcytosine"

XX

XX MO2003012144-A1.

XX

XX 13-FEB-2003.

XX

XX 17-JUL-2002; 2002MO-US022696.

XX

XX 01-AUG-2001; 2001US-00920394.

XX

XX (ISIS-) ISIS PHARM INC.

XX

XX Crooke RM, Graham MJ, Lemonidis KM;

XX

XX WPI; 2003-239532/23.

XX

XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl

PT coenzyme A cholesterol acyltransferase-1, useful for treating a

PT disease/condition involving abnormal lipid or cholesterol metabolism,

PT e.g. atherosclerosis.

XX Claim 3; Page 91; 117pp; English.

PS Sequences AB274897-AB274942 represent antisense oligonucleotides targeted

XX to the human or murine acyl coenzyme A cholesterol acyltransferase-1

XX gene, which inhibit its expression. The antisense oligonucleotides were

CC designed to target different regions of the human or murine acyl coenzyme

CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect

CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by

CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase

CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free

CC cholesterol and fatty acyl-CoA, and are also involved in regulating the

CC concentration of cellular free sterols. The human acyl coenzyme A

CC cholesterol acyltransferase-1 is the predominant ACAT isoform in the

CC liver, and the gene encoding it is located on chromosome 1q25, although a

CC subsequent study has indicated that one acyl coenzyme A cholesterol

CC acyltransferase-1 mRNA is produced from genes on two different

CC chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism

CC involving trans-splicing of the two discontinuous precursor mRNAs. The

CC oligonucleotides of the invention are useful for the prevention and

CC treatment of conditions associated with acyl coenzyme A cholesterol

CC acyltransferase-1, such as disorders involving abnormal lipid or

CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.

CC They are also useful in research and diagnostics for modulating the

CC expression of acyl coenzyme A cholesterol acyltransferase-1

XX Sequence 20 BP; 3 A; 4 C; 9 G; 4 T; 0 U; 0 Other;

SQ

Query Match 1.2%; Score 20; DB 1; Length 20;

Best Local Similarity 100.0%; Pred. No. 18;

Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 741 GAACCTTTCACCGGCGCA 760

Db 20 GAACCTTTCACCGGCGCA 1

RESULT 29

AB274929/c

ID AB274929 standard; DNA; 20 BP.

XX

AC AB274929;

XX

DT 10-MAY-2003 (first entry)

XX

DE Mouse acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #49.

XX

KM Mouse; murine; acyl coenzyme A cholesterol acyltransferase-1; ACAT;

XX chromosome 1; cholesterol metabolism; free sterol regulation;

KM cholesterol metabolism disorder; lipid metabolism disorder;

KW atherosclerosis; cardiovascular disease; cardiac; expression inhibition;

KW phosphorothioate; antisense oligonucleotide; ss.

XX

OS Mus musculus.

XX

PH Key Location/Qualifiers

FT modified_base 1..20

FT /*tag= a

FT /mod_base= OTHER

FT /note= "Phosphorothioate linkages"

FT 1..5

FT /*tag= b

FT /mod_base= OTHER

FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE

FT cytosines are 5-methylcytosine"

FT 16..20

FT /*tag= c

FT /mod_base= OTHER

FT /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE

FT cytosines are 5-methylcytosine"

XX modified_base 1..5

XX MO2003012144-A1.

PD 13-FEB-2003.

XX

PF 17-JUL-2002; 2002MO-US022696.

XX

PR 01-AUG-2001; 2001US-00920394.

XX

PA (ISIS-) ISIS PHARM INC.

XX

PI Crooke RM, Graham MJ, Lemonidis KM;

XX WPI; 2003-239532/23.

DR

XX

XX New antisense oligonucleotides targeted to a nucleic acid encoding acyl

PT coenzyme A cholesterol acyltransferase-1, useful for treating a

PT disease/condition involving abnormal lipid or cholesterol metabolism,

PT e.g. atherosclerosis.

XX

PS Claim 3; Page 92; 117pp; English.

XX

CC Sequences AB274897-AB274942 represent antisense oligonucleotides targeted

CC to the human or murine acyl coenzyme A cholesterol acyltransferase-1

CC gene, which inhibit its expression. The antisense oligonucleotides were

CC designed to target different regions of the human or murine acyl coenzyme

CC A cholesterol acyltransferase-1 RNA, and were analysed for their effect

CC on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by

CC quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase

CC (ACAT) enzymes catalyse the synthesis of cholesterol esters from free

CC cholesterol and fatty acyl-CoA, and are also involved in regulating the

CC concentration of cellular free sterols. The murine acyl coenzyme A

CC cholesterol acyltransferase-1 gene is located on chromosome 1. The

CC oligonucleotides of the invention are useful for the prevention and

CC treatment of conditions associated with acyl coenzyme A cholesterol

CC acyltransferase-1, such as disorders involving abnormal lipid or

CC cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.

CC They are also useful in research and diagnostics for modulating the

CC expression of acyl coenzyme A cholesterol acyltransferase-1

XX

SQ Sequence 20 BP; 6 A; 5 C; 5 G; 4 T; 0 U; 0 Other;

Query Match 1.2%; Score 20; DB 1; Length 20;

Best Local Similarity 100.0%; Pred. No. 18;

Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 550 ATCTGGGATTCTTCAGCAC 569

Db 20 ATCTGGGATTCTTCAGCAC 1

RESULT 30

AB274903/c

ID AB274903 standard; DNA; 20 BP.

XX

AC AB274903;

XX

DT 10-MAY-2003 (first entry)

XX

DE Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #23.

XX

KM Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;

XX chromosome 1q25; chromosome 7; cholesterol metabolism;

KM free sterol regulation; cholesterol metabolism disorder;

KW lipid metabolism disorder; atherosclerosis; cardiovascular disease;

KW cardiac; expression inhibition; phosphorothioate;

KW antisense oligonucleotide; ss.

XX

OS Homo sapiens.

XX

PH Key Location/Qualifiers

FT modified_base 1..20

FT /*tag= a

FT /mod_base= OTHER

FT /note= "Phosphorothioate linkages"

FT 1..5

XX modified_base 1..5


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FT      /*tag= b
FT      /mod_base= OTHER
FT      /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT      cytosines are 5-methylcytosine"
FT      modified_base 16..20
FT      /*tag= c
FT      /mod_base= OTHER
FT      /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
FT      cytosines are 5-methylcytosine"
XX      WO2003012144-A1.
XX      13-FEB-2003.
XX      17-JUL-2002; 2002WO-US022696.
XX      01-AUG-2001; 2001US-00920394.
XX      (ISIS-) ISIS PHARM INC.
XX      Crooke RM, Graham MJ, Lemonidis KM,
XX      WPI; 2003-239532/23.
XX      New antisense oligonucleotides targeted to a nucleic acid encoding acyl
XX      coenzyme A cholesterol acyltransferase-1, useful for treating a
XX      disease/condition involving abnormal lipid or cholesterol metabolism,
XX      e.g. atherosclerosis.
XX      Example 15; Page 91; 117pp; English.
XX      Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted
XX      to the human or murine acyl coenzyme A cholesterol acyltransferase-1
XX      gene, which inhibit its expression. The antisense oligonucleotides were
XX      designed to target different regions of the human or murine acyl coenzyme
XX      A cholesterol acyltransferase-1 RNA, and were analysed for their effect
XX      on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
XX      quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
XX      (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
XX      cholesterol and fatty acyl-CoA, and are also involved in regulating the
XX      concentration of cellular free sterols. The human acyl coenzyme A
XX      cholesterol acyltransferase-1 is the predominant ACAT isoform in the
XX      liver, and the gene encoding it is located on chromosome 1q25, although a
XX      subsequent study has indicated that one acyl coenzyme A cholesterol
XX      acyltransferase-1 mRNA is produced from genes on two different
XX      chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
XX      involving trans-splicing of the two discontinuous precursor mRNAs. The
XX      oligonucleotides of the invention are useful for the prevention and
XX      treatment of conditions associated with acyl coenzyme A cholesterol
XX      acyltransferase-1, such as disorders involving abnormal lipid or
XX      cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
XX      They are also useful in research and diagnostics for modulating the
XX      expression of acyl coenzyme A cholesterol acyltransferase-1
XX      Sequence 20 BP; 3 A; 7 C; 7 G; 3 T; 0 U; 0 Other;
SQ      Query Match 1.2%; Score 20; DB 1; Length 20;
      Best Local Similarity 100.0%; Pred. No. 18;
      Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY      621 CCTGCGCTGGGTCAGAGACA 640
      Db 20 CCTGCGCTGGGTCAGAGACA 1
      RESULT 31
      ABZ74917/c
      ID ABZ74917 standard; DNA; 20 BP.
      XX
      AC ABZ74917;
      XX
      DT 10-MAY-2003 (first entry)
      XX

```

```

DE      Human acyl coenzyme A cholesterol acyltransferase-1 antisense oligo #37.
XX
XX      Human; acyl coenzyme A cholesterol acyltransferase-1; ACAT; liver;
XX      chromosome 1q25; chromosome 1; chromosome 7; cholesterol metabolism;
XX      free sterol regulation; cholesterol metabolism disorder;
XX      lipid metabolism disorder; atherosclerosis; cardiovascular disease;
XX      cardiac expression inhibition; phosphothioate;
XX      antisense oligonucleotide; ss.
XX      Homo sapiens.
OS
XX
XX      Key Location/Qualifiers
XX      modified_base 1..20
XX      /tag= a
XX      /mod_base= OTHER
XX      /note= "Phosphorothioate linkages"
XX      modified_base 1..5
XX      /tag= b
XX      /mod_base= OTHER
XX      /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
XX      cytosines are 5-methylcytosine"
XX      modified_base 16..20
XX      /*tag= c
XX      /mod_base= OTHER
XX      /note= "2'-methoxyethyl (2'-MOE) nucleotides. All 2' MOE
XX      cytosines are 5-methylcytosine"
XX      WO2003012144-A1.
XX      13-FEB-2003.
XX      17-JUL-2002; 2002WO-US022696.
XX      01-AUG-2001; 2001US-00920394.
XX      (ISIS-) ISIS PHARM INC.
XX      Crooke RM, Graham MJ, Lemonidis KM,
XX      WPI; 2003-239532/23.
XX      New antisense oligonucleotides targeted to a nucleic acid encoding acyl
XX      coenzyme A cholesterol acyltransferase-1, useful for treating a
XX      disease/condition involving abnormal lipid or cholesterol metabolism,
XX      e.g. atherosclerosis.
XX      Claim 3; Page 91; 117pp; English.
XX      Sequences ABZ74897-ABZ74942 represent antisense oligonucleotides targeted
XX      to the human or murine acyl coenzyme A cholesterol acyltransferase-1
XX      gene, which inhibit its expression. The antisense oligonucleotides were
XX      designed to target different regions of the human or murine acyl coenzyme
XX      A cholesterol acyltransferase-1 RNA, and were analysed for their effect
XX      on acyl coenzyme A cholesterol acyltransferase-1 mRNA levels by
XX      quantitative real-time PCR. Acyl coenzyme A cholesterol acyltransferase
XX      (ACAT) enzymes catalyse the synthesis of cholesterol esters from free
XX      cholesterol and fatty acyl-CoA, and are also involved in regulating the
XX      concentration of cellular free sterols. The human acyl coenzyme A
XX      cholesterol acyltransferase-1 is the predominant ACAT isoform in the
XX      liver, and the gene encoding it is located on chromosome 1q25, although a
XX      subsequent study has indicated that one acyl coenzyme A cholesterol
XX      acyltransferase-1 mRNA is produced from genes on two different
XX      chromosomes (chromosomes 1 and 7) by a novel RNA recombination mechanism
XX      involving trans-splicing of the two discontinuous precursor mRNAs. The
XX      oligonucleotides of the invention are useful for the prevention and
XX      treatment of conditions associated with acyl coenzyme A cholesterol
XX      acyltransferase-1, such as disorders involving abnormal lipid or
XX      cholesterol metabolism, e.g., atherosclerosis or cardiovascular disease.
XX      They are also useful in research and diagnostics for modulating the
XX      expression of acyl coenzyme A cholesterol acyltransferase-1
XX      Sequence 20 BP; 4 A; 6 C; 2 G; 8 T; 0 U; 0 Other;
SQ

```


Query Match 1.2%; Score 20; DB 1; Length 20;
 Best Local Similarity 100.0%; Pred. No. 18;
 Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 OY 1721 ACATAGAGCTGTGATGAG 1740
 |||||
 20 ACATAGAGCTGTGATGAG 1

RESULT 32
 AB269754/c
 ID AB269754 standard; DNA; 19 BP.

AC AB269754;
 XX
 DT 04-APR-2003 (first entry)
 XX
 DE Human CEH antisense PCR primer.

XX Human; ABC-A1; expression promoter; pioglitazone; LXRalpha; ABC-G1;
 KW ACAT-1; CEH; cardiant; antianginal; antiarteriosclerotic; anorectic;
 KW cerebroprotective; hepatotropic; antidiabetic; dermatological;
 KW cytosstatic; nephrotropic; vasotropic; antiinflammatory; antilipemic;
 KW anticoagulant; haemolytic; protozoacide; cholesterol; PCR; primer; ss.

XX Homo sapiens.
 OS
 PN W0200287580-A1.

XX 07-NOV-2002.

XX 24-APR-2002; 2002MO-JP004072.

XX 25-APR-2001; 2001JP-00128222.

XX (TAKE) TAKEDA CHEM IND LTD.

XX Sugiyama Y, Fuse H, Hirakata M, Tozawa R;

XX WPI; 2003-148283/14.

PT ABC-A1 mRNA expression promoter comprises pioglitazone e.g. for
 PT controlling cholesterol distribution.

PS Example 4; Page 84; 117pp; Japanese.

XX The invention relates to a novel ABC-A1 mRNA expression promoter
 CC comprising pioglitazone. Also included are ABC-A1 mRNA, LXRalpha mRNA,
 CC ABC-G1 mRNA, ACAT-1 mRNA and CEH mRNA expression promoters. The novel
 CC promoters of the invention have cardiant, antianginal, antidiabetic,
 CC antiarteriosclerotic, cerebroprotective, hepatotropic, vasotropic,
 CC dermatological, cytosstatic, anorectic, nephrotropic, antidiabetic,
 CC antiinflammatory, antilipemic, anticoagulant, haemolytic, and
 CC protozoacide activity. The promoters are useful for controlling
 CC cholesterol distribution in vivo and for treating and preventing e.g.
 CC diseases associated with low blood high density lipoprotein, tangleter
 CC disease, coronary vascular disorders (such as myocardial infarction and
 CC angina pectoris), arteriosclerosis, cerebral vascular disorders (such as
 CC cerebral infarction), fatty liver, liver sclerosis, diabetic
 CC complications, dermatological disorders, leukaemia, joint disease,
 CC peripheral vascular disorders, obesity, cerebrotendinous xanthomatosis,
 CC glomerular nephritis, restenosis (e.g. after bypass surgery),
 CC pancreatitis, hyperlipidaemia, deep vein thrombosis and cerebral malaria.
 CC The present sequence represents a PCR primer used in the invention to
 CC amplify the human CEH CDNA

XX Sequence 19 BP; 5 A; 5 C; 6 G; 3 T; 0 U; 0 Other;

Query Match 1.1%; Score 19; DB 1; Length 19;
 Best Local Similarity 100.0%; Pred. No. 20;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 874 ATGCTCAGCTGCGGAC 892

DB 19 ATGCTCAGCTGCGGAC 1
 |||||

RESULT 33
 AB269753
 ID AB269753 standard; DNA; 18 BP.

XX AB269753;

XX 04-APR-2003 (first entry)

XX Human CEH sense PCR primer.

XX Human; ABC-A1; expression promoter; pioglitazone; LXRalpha; ABC-G1;
 KW ACAT-1; CEH; cardiant; antianginal; antiarteriosclerotic; anorectic;
 KW cerebroprotective; hepatotropic; antidiabetic; dermatological;
 KW cytosstatic; nephrotropic; vasotropic; antiinflammatory; antilipemic;
 KW anticoagulant; haemolytic; protozoacide; cholesterol; PCR; primer; ss.

XX Homo sapiens.

PN W0200287580-A1.

PD 07-NOV-2002.

PF 24-APR-2002; 2002MO-JP004072.

PR 25-APR-2001; 2001JP-00128222.

PA (TAKE) TAKEDA CHEM IND LTD.

PI Sugiyama Y, Fuse H, Hirakata M, Tozawa R;

PI WPI; 2003-148283/14.

PT ABC-A1 mRNA expression promoter comprises pioglitazone e.g. for
 PT controlling cholesterol distribution.

PS Example 4; Page 84; 117pp; Japanese.

XX The invention relates to a novel ABC-A1 mRNA expression promoter
 CC comprising pioglitazone. Also included are ABC-A1 mRNA, LXRalpha mRNA,
 CC ABC-G1 mRNA, ACAT-1 mRNA and CEH mRNA expression promoters. The novel
 CC promoters of the invention have cardiant, antianginal, antidiabetic,
 CC antiarteriosclerotic, cerebroprotective, hepatotropic, vasotropic,
 CC dermatological, cytosstatic, anorectic, nephrotropic, antidiabetic,
 CC antiinflammatory, antilipemic, anticoagulant, haemolytic, and
 CC protozoacide activity. The promoters are useful for controlling
 CC cholesterol distribution in vivo and for treating and preventing e.g.
 CC diseases associated with low blood high density lipoprotein, tangleter
 CC disease, coronary vascular disorders (such as myocardial infarction and
 CC angina pectoris), arteriosclerosis, cerebral vascular disorders (such as
 CC cerebral infarction), fatty liver, liver sclerosis, diabetic
 CC complications, dermatological disorders, leukaemia, joint disease,
 CC peripheral vascular disorders, obesity, cerebrotendinous xanthomatosis,
 CC glomerular nephritis, restenosis (e.g. after bypass surgery),
 CC pancreatitis, hyperlipidaemia, deep vein thrombosis and cerebral malaria.
 CC The present sequence represents a PCR primer used in the invention to
 CC amplify the human CEH CDNA

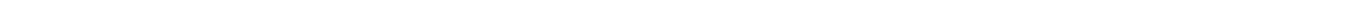
XX Sequence 18 BP; 5 A; 5 C; 5 G; 3 T; 0 U; 0 Other;

Query Match 1.0%; Score 18; DB 1; Length 18;
 Best Local Similarity 100.0%; Pred. No. 21;
 Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 815 AGCCCTTGCTGAGCAA 832
 |||||
 DB 1 AGCCCTTGCTGAGCAA 18

Search completed: December 8, 2004, 07:22:59

Job time : 1 secs



GenCore version 5.1.6
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OM nucleic - nucleic search, using sw model

Run on: December 8, 2004, 07:25:43 ; Search time 1 Seconds

(without alignments)
2.049 Million cell updates/sec

Title: US-09-920-394-3

Perfect score: 1728
Sequence: 1 tgcgcgcctccacgacgtcg5.....catagagctgtaacgaaga 1728

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 0.5

Searched: 28 seqs, 593 residues

Total number of hits satisfying chosen parameters: 56

Minimum DB seq length: 8
Maximum DB seq length: 50

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 28 summaries

Database : rnpb3.seq*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	50	2.9	50	1	US-09-920-394-6
2	26	1.5	26	1	US-10-468-433-24
3	20	1.2	20	1	US-09-920-394-4
4	20	1.2	20	1	US-09-920-394-5
5	20	1.2	20	1	US-09-920-394-17
6	20	1.2	20	1	US-09-920-394-18
7	20	1.2	20	1	US-09-920-394-19
8	20	1.2	20	1	US-09-920-394-20
9	20	1.2	20	1	US-09-920-394-21
10	20	1.2	20	1	US-09-920-394-22
11	20	1.2	20	1	US-09-920-394-23
12	20	1.2	20	1	US-09-920-394-24
13	20	1.2	20	1	US-09-920-394-25
14	20	1.2	20	1	US-09-920-394-26
15	20	1.2	20	1	US-09-920-394-27
16	20	1.2	20	1	US-09-920-394-28
17	20	1.2	20	1	US-09-920-394-29
18	20	1.2	20	1	US-09-920-394-30
19	20	1.2	20	1	US-09-920-394-31
20	20	1.2	20	1	US-09-920-394-32
21	20	1.2	20	1	US-09-920-394-33
22	20	1.2	20	1	US-09-920-394-34
23	20	1.2	20	1	US-09-920-394-35
24	20	1.2	20	1	US-09-920-394-36
25	20	1.2	20	1	US-09-920-394-37
26	20	1.2	20	1	US-09-920-394-49
27	19	1.1	19	1	US-10-468-433-23
28	18	1.0	18	1	US-10-468-433-22

ALIGNMENTS

```

RESULT 1
US-09-920-394-6
; Sequence 6, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemondis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 6
; LENGTH: 50
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: PCR Probe
US-09-920-394-6

Query Match          2.9%; Score 50; DB 1; Length 50;
Best Local Similarity 100.0%; Pred. No. 0.022;
Matches 50; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY      1601 AAGGATCTGCGAGATTGGTCCACACCCAGCGGCCGGAAGCTGAAG 1650
DB      1 AAGGATCTGCGAGATTGGTCCACACCCAGCGGCCGGAAGCTGAAG 50

RESULT 2
US-10-468-433-24
; Sequence 24, Application US/10468433
; Publication No. US20040077689A1
; GENERAL INFORMATION:
; APPLICANT: SUGIYAMA, Yasuo
; APPLICANT: FUSE, Hiromitsu
; APPLICANT: HIRAKATA, Masao
; APPLICANT: TOZAWA, Ryuchi
; TITLE OF INVENTION: ABC Expression Promoting Agent
; FILE REFERENCE: 2907USOP
; CURRENT APPLICATION NUMBER: US/10/468,433
; CURRENT FILING DATE: 2003-10-16
; PRIOR APPLICATION NUMBER: PCT/JP02/04072
; PRIOR FILING DATE: 2002-04-24
; PRIOR APPLICATION NUMBER: JP 2001-128222
; PRIOR FILING DATE: 2001-04-25
; NUMBER OF SEQ ID NOS: 24
; SEQ ID NO 24
; LENGTH: 26
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: primer
US-10-468-433-24

Query Match          1.5%; Score 26; DB 1; Length 26;
Best Local Similarity 100.0%; Pred. No. 3.2;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY      834 TGCATACATGCTGGGTCGCAAAACA 859
DB      1 TGCATACATGCTGGGTCGCAAAACA 26

RESULT 3
US-09-920-394-4
; Sequence 4, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham

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; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 4
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: PCR Primer
; US-09-920-394-4

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0; Indels 0;

QY      1513 ATGGTGATGAATTCGTGGGC 1512
DB      1 ATGGTGATGAATTCGTGGGC 20

RESULT 4
US-09-920-394-5/C
; Sequence 5, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 5
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: PCR Primer
; US-09-920-394-5

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0; Indels 0;

QY      1685 CCAAGAAGCAGTGGAGAAG 1704
DB      20 CCAAGAAGCAGTGGAGAAG 1

RESULT 5
US-09-920-394-17/C
; Sequence 17, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 17
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence

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; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
; US-09-920-394-17

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0; Indels 0;

QY      14 TGTGCCCTTCACGATGTGG 33
DB      20 TGTGCCCTTCACGATGTGG 1

RESULT 6
US-09-920-394-18/C
; Sequence 18, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 18
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
; US-09-920-394-18

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0; Indels 0;

QY      61 TCTGCTTCGCGGCTTGGGG 80
DB      20 TCTGCTTCGCGGCTTGGGG 1

RESULT 7
US-09-920-394-19/C
; Sequence 19, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 19
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
; US-09-920-394-19

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0; Indels 0;

QY      121 GGCNAAGTGTGGGGAAGTT 140
DB      20 GGCNAAGTGTGGGGAAGTT 1

```

RESULT 8
US-09-920-394-20/c
; Sequence 20, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 20
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-20

Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0;

OY 261 GAAGATGCCACCTCTACC 280
DB 20 GAAGATGCCACCTCTACC 1

RESULT 9
US-09-920-394-21/c
; Sequence 21, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 21
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-21

Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0;

OY 431 CGGTGATGGTGTGATCCAC 450
DB 20 CGGTGATGGTGTGATCCAC 1

RESULT 10
US-09-920-394-22/c
; Sequence 22, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE

; TITLE OF INVENTION: EXPRESSION
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 22
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-22

Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0;

OY 551 TCTGGGATCTTCAGCACA 570
DB 20 TCTGGGATCTTCAGCACA 1

RESULT 11
US-09-920-394-23/c
; Sequence 23, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 23
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-23

Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Gaps 0;

OY 621 CTTGGCTGGTCCAGACA 640
DB 20 CTTGGCTGGTCCAGACA 1

RESULT 12
US-09-920-394-24/c
; Sequence 24, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 24
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide

US-09-920-394-24

Query Match 1.2%: Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 681 CTTTGAGAGTCAAGCGGAG 700
DB 20 CTTTGAGAGTCAAGCGGAG 1

RESULT 13

US-09-920-394-25/c
; Sequence 25, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 25
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-25

Query Match 1.2%: Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 741 GAACCTCTTCACCGGCGCA 760
DB 20 GAACCTCTTCACCGGCGCA 1

RESULT 14
US-09-920-394-26/c
; Sequence 26, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 26
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-26

Query Match 1.2%: Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 831 AATTGCTATCATCTGCGGT 850
DB 20 AATTGCTATCATCTGCGGT 1

RESULT 15

US-09-920-394-27/c
; Sequence 27, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 27
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-27

Query Match 1.2%: Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 881 ACTGCTGCGACAGAGACG 900
DB 20 ACTGCTGCGACAGAGACG 1

RESULT 16
US-09-920-394-28/c
; Sequence 28, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 28
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-28

Query Match 1.2%: Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 981 CCTTGGGCGACGTGATTG 1000
DB 20 CCTTGGGCGACGTGATTG 1

RESULT 17

US-09-920-394-29/c
; Sequence 29, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589

```

; CURRENT APPLICATION NUMBER: US/09/920.394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 29
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-29

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1071 GGTGGATTAAACAGCAG 1090
Db      20 GGTGGATTAAACAGCAG 1

RESULT 18
US-09-920-394-30/c
; Sequence 30, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920.394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 30
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-30

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1171 CTCCTGTGAAGTCTATCC 1190
Db      20 CTCCTGTGAAGTCTATCC 1

RESULT 19
US-09-920-394-31/c
; Sequence 31, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920.394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 31
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-31
```

```

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1231 GAGAAATCTTAGAGAGAC 1250
Db      20 GAGAAATCTTAGAGAGAC 1

RESULT 20
US-09-920-394-32/c
; Sequence 32, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920.394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 32
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-32

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1311 TGTCCTCTGTGATTGTGG 1330
Db      20 TGTCCTCTGTGATTGTGG 1

RESULT 21
US-09-920-394-33/c
; Sequence 33, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920.394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 33
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-33

Query Match          1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1421 TGATAGGAGACACGGGGAT 1440
Db      20 TGATAGGAGACACGGGGAT 1

RESULT 22
US-09-920-394-34/c
```

```
; Sequence 34, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 34
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-34
```

```
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1512 GATGCTGATGAATTCGGG 1531
|||
20 GATGCTGATGAATTCGGG 1
```

```
RESULT 23
US-09-920-394-35/c
; Sequence 35, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 35
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-35
```

```
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1610 TGCAGATTGGTGCACACACC 1629
|||
20 TGCAGATTGGTGCACACACC 1
```

```
RESULT 24
US-09-920-394-36/c
; Sequence 36, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
```

```
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 36
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-36
```

```
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1711 CAGACAGAACACATAGAGCT 1730
|||
20 CAGACAGAACACATAGAGCT 1
```

```
RESULT 25
US-09-920-394-37/c
; Sequence 37, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 37
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-37
```

```
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY 1721 ACATAGAGCTGTGAATGAAG 1740
|||
20 ACATAGAGCTGTGAATGAAG 1
```

```
RESULT 26
US-09-920-394-49/c
; Sequence 49, Application US/09920394
; Publication No. US20030096773A1
; GENERAL INFORMATION:
; APPLICANT: Rosanne M. Crooke
; APPLICANT: Mark J. Graham
; APPLICANT: Kristina M. Lemonidis
; TITLE OF INVENTION: ANTISENSE MODULATION OF ACYL COENZYME A CHOLESTEROL ACYLTRANSFERASE
; FILE REFERENCE: ISPH-0589
; CURRENT APPLICATION NUMBER: US/09/920,394
; CURRENT FILING DATE: 2001-08-01
; NUMBER OF SEQ ID NOS: 62
; SEQ ID NO 49
; LENGTH: 20
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Antisense Oligonucleotide
US-09-920-394-49
```

```
Query Match 1.2%; Score 20; DB 1; Length 20;
Best Local Similarity 100.0%; Pred. No. 12;
```


Matches 20; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 550 ATCTGGGATTTCTTCAGAC 569
Db 20 ATCTGGGATTTCTTCAGAC 1

RESULT 27

US-10-468-433-23/c
; Sequence 23, Application US/10468433
; Publication No. US2004007689A1
; GENERAL INFORMATION:
; APPLICANT: SUGIYAMA, Yasuo
; APPLICANT: FUSE, Hiromitsu
; APPLICANT: HIRAKATA, Masao
; APPLICANT: TOZAWA, Ryuchi
; TITLE OF INVENTION: ABC Expression Promoting Agent
; FILE REFERENCE: 2907USOP
; CURRENT APPLICATION NUMBER: US/10/468,433
; PRIOR APPLICATION NUMBER: PCT/JP02/04072
; PRIOR FILING DATE: 2002-04-24
; PRIOR APPLICATION NUMBER: JP 2001-128222
; PRIOR FILING DATE: 2001-04-25
; NUMBER OF SEQ ID NOS: 24
; SEQ ID NO 23
; LENGTH: 19
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: primer
US-10-468-433-23

Query Match 1.1%; Score 19; DB 1; Length 19;
Best Local Similarity 100.0%; Pred. No. 14;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 674 ATGTTCACTGCTCGAC 892
Db 19 ATGTTCACTGCTCGAC 1

RESULT 28

US-10-468-433-22
; Sequence 22, Application US/10468433
; Publication No. US2004007689A1
; GENERAL INFORMATION:
; APPLICANT: SUGIYAMA, Yasuo
; APPLICANT: FUSE, Hiromitsu
; APPLICANT: HIRAKATA, Masao
; APPLICANT: TOZAWA, Ryuchi
; TITLE OF INVENTION: ABC Expression Promoting Agent
; FILE REFERENCE: 2907USOP
; CURRENT APPLICATION NUMBER: US/10/468,433
; PRIOR APPLICATION NUMBER: PCT/JP02/04072
; PRIOR FILING DATE: 2002-04-24
; PRIOR APPLICATION NUMBER: JP 2001-128222
; PRIOR FILING DATE: 2001-04-25
; NUMBER OF SEQ ID NOS: 24
; SEQ ID NO 22
; LENGTH: 18
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: primer
US-10-468-433-22

Query Match 1.0%; Score 18; DB 1; Length 18;
Best Local Similarity 100.0%; Pred. No. 18;
Matches 18; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 815 AGCCCTTGCTGAGCAA 832

Db 1 AGCCCTTGCTGAGCAA 18

Search completed: December 8, 2004, 07:25:44
Job time: 1.9secs

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OM nucleic - nucleic search, using sw model

Run on: December 8, 2004, 07:24:14 ; Search time 0.001 Seconds

(without alignments)
124.416 Million cell updates/sec

Title: US-09-920-394-3

Perfect score: 1728
Sequence: 1 tgcgcgccctcagcatgtg.....catagagccgtgaatgaaga 1728

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 0.5

Searched: 3 segs, 36 residues

Total number of hits satisfying chosen parameters: 6

Minimum DB seq length: 8

Maximum DB seq length: 50

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 3 summaries

Database : rn13.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	12	0.7	12	1	US-09-593-323-45
2	12	0.7	12	1	US-09-594-108-45
3	12	0.7	12	1	US-09-344-300-45

ALIGNMENTS

RESULT 1
US-09-593-323-45
; Sequence 45, Application US/09593323
; Patent No. 6265213
; GENERAL INFORMATION:
; APPLICANT: Morgan, Antony R.
; APPLICANT: Severini, Alberto
; TITLE OF INVENTION: Compositions and Methods for Determining the Activity
; TITLE OF INVENTION: of DNA-Binding Proteins and of Initiation of
; FILE REFERENCE: DNAB-02921
; CURRENT APPLICATION NUMBER: US/09/593,323
; CURRENT FILING DATE: 2000-06-13
; PRIOR APPLICATION NUMBER: 09/344,300
; PRIOR FILING DATE: 1999-06-24
; NUMBER OF SEQ ID NOS: 72
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 45
; LENGTH: 12
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-09-593-323-45

Query Match 0.7%; Score 12; DB 1; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.87;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 927 GAAATGAAATT 938
Db 1 GAAATGAAATT 12

RESULT 2
US-09-594-108-45
; Sequence 45, Application US/09594108
; Patent No. 6284468
; GENERAL INFORMATION:
; APPLICANT: Morgan, Antony R.
; APPLICANT: Severini, Alberto
; TITLE OF INVENTION: Compositions and Methods for Determining the Activity
; TITLE OF INVENTION: of DNA-Binding Proteins and of Initiation of
; FILE REFERENCE: DNAB-02921
; CURRENT APPLICATION NUMBER: US/09/594,108
; CURRENT FILING DATE: 2000-06-13
; PRIOR APPLICATION NUMBER: 09/344,300
; PRIOR FILING DATE: 1999-06-24
; NUMBER OF SEQ ID NOS: 72
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 45
; LENGTH: 12
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-09-594-108-45

Query Match 0.7%; Score 12; DB 1; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.87;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 927 GAAATGAAATT 938
Db 1 GAAATGAAATT 12

RESULT 3
US-09-344-300-45
; Sequence 45, Application US/09344300B
; Patent No. 6297013
; GENERAL INFORMATION:
; APPLICANT: Morgan, Antony R.
; APPLICANT: Severini, Alberto
; TITLE OF INVENTION: Compositions and Methods for Determining the Activity
; TITLE OF INVENTION: of DNA-Binding Proteins and of Initiation of
; FILE REFERENCE: DNAB-02921
; CURRENT APPLICATION NUMBER: US/09/344,300B
; CURRENT FILING DATE: 1999-06-24
; NUMBER OF SEQ ID NOS: 72
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 45
; LENGTH: 12
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
US-09-344-300-45

Query Match 0.7%; Score 12; DB 1; Length 12;
Best Local Similarity 100.0%; Pred. No. 0.87;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 927 GAAATGAAATT 938
Db 1 GAAATGAAATT 12

Search completed: December 8, 2004, 07:24:14
Job time : 0.001 secs
